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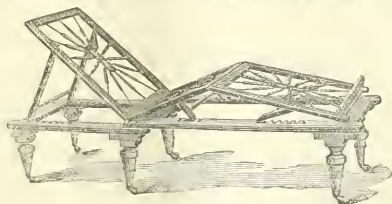
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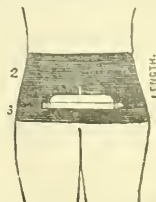
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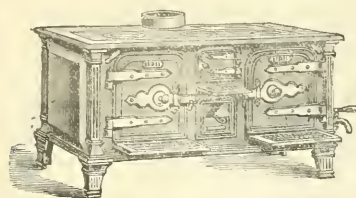
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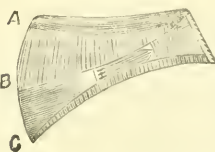
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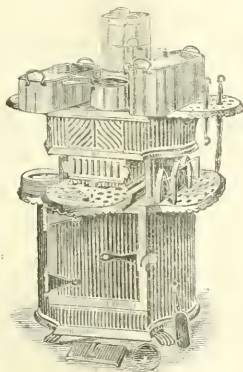
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[To the Editor of 'THE MEDICAL TIMES AND GAZETTE'.]

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'Lancaster, May 1881.'

'Yours, etc., METCALF JOHNSON.'

[From 'THE MEDICAL RECORD', London, May 15, 1880.]

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THE LONDON MEDICAL RECORD.

NOVEMBER 15, 1887.

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The London Medical Record.

PATENKO ON CORPORA FIBROSA OF THE OVARY.

ALL who have enjoyed many opportunities of examining ovaries must be familiar with certain tough white bodies, that offer considerable resistance to the knife. Their cut surfaces appear convex, and at a glance they may be seen to differ greatly from true corpora lutea in a state of atrophy. Until quite recently, they have not been the subject of so much attention as they deserve, yet, like every other abnormality to be found in the ovary, the recognition of their true nature is a matter of supreme importance in any endeavour to discover the earliest origin either of cystic or of solid ovarian tumours. Before the follicular, stromal, or vascular origin of cysts of the ovary can be settled, it is necessary to gain a very precise knowledge of the nature and changes of Graafian follicles, of the true histological elements of the stroma, and of the normal calibre of the vessels of the interior of the ovary and the thickness of their walls.

A very large proportion of the innumerable follicles existing in a child's ovaries from uterine life are destined never to mature, but undergo certain definite atrophic changes through childhood, and until senile atrophy occurs. Beigel* logically terms the degenerate undeveloped follicle a false corpus luteum, giving the name 'true' to the corpora lutea of menstruation, as well as to those formed in association with pregnancy. As adult age advances after puberty, large areas of degenerate tissue around these true and false corpora lutea are formed, and the vessels in this tissue have even thicker coats than elsewhere in the ovary. It is among these normal atrophic changes that the origin of cystic disease must be sought for. A very slight morbid influence may seriously affect the retrograde metamorphosis of the follicles, or may set up changes around the vessels.

The corpora fibrosa represent one kind of morbid change during involution of follicles. Dr. Patenko of St. Petersburg has recently devoted much attention to these bodies.† In ovaries containing corpora fibrosa, he first describes their formation from those follicles that have never grown beyond what is termed the primordial stage. The cells of the membrana propria undergo a granular degeneration, their nuclei disappearing. As the process continues, the membrana granulosa and the vesicula germinativa are converted into a granular mass, and the walls of the follicle fall in, its cavity elongating. At length, the cells of the membrana granulosa become changed into a characteristic, homogeneous, hyaline material. In ripper follicles that degenerate without ever becoming mature, morbid changes in the direction of corpora fibrosa proceed in a different manner. Patenko and Slavjansky‡ insist on a careful recognition of the three layers which, they believe, consti-

tute the wall of any follicle, whether in this stage or actually ripe for menstruation. They describe three coats: the outer is inseparable from the surrounding stroma, but richer in cells, and containing finer connective-tissue fibres. The second or inner coat is lymphatic tissue, pure and simple, containing numerous lymphatic vessels as well as reticular tissue and leucocytes. The third coat is termed membrana propria. In order to explain precisely what the two observers above quoted signify by this coat, we must remark that they term it a single epithelioid layer investing the cavity of the follicle so as to separate the epithelium of the cavity from the inner (or lymphatic) coat. Their 'endothelium' and epithelium together signify what is generally termed the membrana granulosa. Patenko adds that such 'endothelium', 'according to Debove's researches, always lies between epithelium and cellular tissue'.

To form a corpus fibrosum, this membrana propria falls in as a zig-zag band, soon assuming the characteristic hyaline appearance, and the stroma pushes into its deep folds. At length it becomes a mass of homogeneous shiny tissue, the hyaline changes involving all the remainder of the old follicle. The zig-zag border remains very distinct. Had the follicle undergone normal atrophy, its site would at last have been marked by a coarsely granular, hazy, and imperfectly circumscribed mass. Both these bodies, the abnormal and the normal remains of half-developed follicles, are often seen together. In ovaries where many primordial and half-developed follicles have undergone these changes, the stroma on section appears to be dotted over with a great number of little oval, semitransparent bodies, convex on section, but not very tough.

Lastly, a ripe follicle may become a corpus fibrosum. Not only do active changes go on in the membrana propria and in the lymphatic or inner coat, but the outer coat also shows hyaline degeneration from the first. The surrounding stroma, irritated by the changes in the follicle, becomes infiltrated with cells. This involves the formation of far more sclerosed tissue than in cases where the membrana propria alone is involved: hence the most solid, tough, and characteristic form of corpus fibrosum is the result. It must here be explained that it is the above-described hyaline tissue that Patenko considers as evidence of sclerosis. If the ovum have not escaped, active 'sclerosis' (employing the term henceforth as understood by the author) taking place in the walls of the follicle, the stroma can only force its way through these toughened walls to a very limited extent. Hence, in such a case, the corpus fibrosum is small, and almost entirely composed of the collapsed walls, represented by a hyaline zig-zag band enclosing a very narrow space filled with a few fibres. When, however, the follicle has discharged its ovum, and, instead of becoming a corpus luteum, undergoes sclerosis, or hyaline changes, in its walls, its cavity is invaded by a considerable amount of ovarian stroma, which undergoes partial atrophy. The corpus fibrosum thus produced is a structureless, semi-opaque, dull, fusiform body, the zig-zag altered walls having become blended with the atrophied and sclerosed stroma within them. Lastly, corpora fibrosa may form out of a follicle into which hemorrhage has occurred. The zig-zag hyaline walls are then found to surround a cheesy mass, which is degenerate serum mixed with red corpuscles, the white having been absorbed. Blood in small ovarian cysts often assumes this appearance, especially in the case of those masses of greatly dilated Graafian follicles,

* Zur Naturgeschichte des Corpus Luteum. (Archiv für Gynäk., vol. xii, 1878.)

† Ueber die Entwicklung der Corpora Fibrosa in Ovarien. (Virchow's Archiv, vol. lxxiv, 1881.)

‡ Zur Normalen und Pathologischen Histologie des Graaf'schen Bläschens des Menschen. (Virchow's Archiv, vol. li, 1870.)

termed, by some authors, 'oligocystic' tumours. Such cheesy masses may be seen in the cut sections of a pair of ovaries with papillary growths from their surfaces, now in the museum of the College of Surgeons of England (No. 2621 c, Pathological Series), and removed by Mr. Durham from a young subject.

All these corpora fibrosa are devoid of vessels, and thus differ from the very vascular large fibromata of the ovary. The vessels around them, however, often undergo 'sclerosis' or hyaline change, beginning in the intima, which becomes a shiny, semi-transparent ring. A granular degeneration of the media takes place, involving the adventitia, which next becomes hyaline, and this last change extends inwards to the media, so that for a time tworings are seen, the altered intima and adventitia. All corpora fibrosa, with their surrounding vessels, contract, instead of growing; hence, even at first, the sum of the largest possible number of corpora fibrosa that could form in one ovary, will not make a perceptible enlargement of that organ, and can never become a fibroma.

So thinks Patenko, and with good reason. Yet may not some forms of these corpora fibrosa, and their surrounding vessels, become the starting point of multilocular cysts? In many ovaries, fellows to enormous cystic tumours, we have found slight enlargement, with conversion of nearly every follicle into bodies which appear to be corpora fibrosa undergoing a secondary change, and becoming cystic by breaking down of the hyaline tissue and invasion of the adjacent stroma. Noeggerath believes that cystic cavities result from changes in ovarian vessels, changes very similar to those above described. We cannot help thinking that he has assigned too many morbid appearances in the ovaries to vascular changes; although, on the other hand, it seems to us equally probable that Patenko has been somewhat over-zealous to make out that the very same appearances are in all cases alterations of follicles. A careful study of the monograph under consideration, and a close comparison of its descriptive part with Dr. Noeggerath's paper,* will demonstrate such sources of fallacy. In no case is it very easy to distinguish the cut section of a large vessel that has undergone hyaline changes, from a section of a follicle much altered by the same morbid process. It is much to be wished that the precise meaning of the 'sclerosis', or 'hyaline change', were made more clear; for thereon much depends with regard to ovarian pathology. ALBAN DORAN.

SIMON ON SEA-BATHING.

M. JULES SIMON, in the course of a lecture delivered recently (*Le Progrès Médical*, 1881, No. 36) at the Hôpitaux des Enfants-Malades, made the following practical remarks.

Cold Sea-Baths.—You are all aware of the benefit many children derive from sea-bathing, but you have, perhaps, omitted to consider the numerous contra-indications to its use. My experience of twenty years in private practice, and at this hospital from which the children are sent to the sea at Berck, enables me to point out to you some of these advantages and disadvantages. Sea-water has a nearly uniform temperature, rising a

degree in July, remaining stationary in August, and sinking gradually in September; it does not follow the atmospheric variations, but remains, on our shores, at from 15 to 20 deg. Cent. (59 to 68 deg. Fahr.); a constancy which it owes to its richness in salt, of which, besides carbonates and sulphates, it contains 25 to 27 grammes (375 to 405 grains) to the litre, and in addition there are bromine, iodine, and organic matter.

Speaking generally, cold baths produce at first a more or less acute sense of oppression; the respiration and circulation become slower, the skin blanches, the blood rushes to the central organs, especially to the head. After a few seconds, this is succeeded by an agreeable reaction; there is a sensation of relief, the circulation quickens, the skin becomes warm and pink, and the respiration deepens. This reaction varies with age, temperament, and general health; but if it do not occur there is a secondary rigor with a sense of oppression, even greater than that on entering the baths. In children who are too young, or too delicate, or in old people, or if one merely stay in the sea too long, this secondary rigor is not uncommon. It causes an injurious loss of heat, with congestion of the internal organs.

After the bath, you may observe a general lassitude, and what is of much more importance, nervous excitement depending upon the afflux of blood to the brain. When the baths are properly indicated, these consecutive phenomena are little marked, and diminish after a few times, while in the interval the strength increases, appetite becomes keener, digestion more easy, the circulation of lymph and blood more rapid, the pulse larger and fuller, the subcutaneous tissues firmer, and the lymphatic glands diminish in size.

In children, and especially in little girls, constipation is not an uncommon occurrence, and, if not attended to, is likely to prevent the good result which might be otherwise expected. Diarrhœa at the sea is not the result of sea-bathing, but of bad water or seasonal influences.

It is well to direct the attention of parents to these two points: constipation and cerebral excitement. If they be not attended to, the head becomes heavy, the temper sharp, the nervous susceptibility extreme, the appetite diminished, and the regular action of the digestive organs seriously deranged.

Warm Salt Baths.—With tepid or warm sea-water the congestive action is much diminished, but not altogether prevented; and its effects may be observed on the circulation, the respiration, the nervous system, and, in females, on the genito-urinary organs. With respect to the latter, women with congestion of the genito-urinary apparatus are bad subjects for sea-bathing of any kind.

In addition to the influence of the sea-bath, we must not forget the exciting action of the saline atmosphere, which is especially noticeable in nervous children, their sleep becoming disturbed, and their attacks more violent and frequent. The subjects of hysteria and epilepsy are generally made worse by sea-air.

Among the chief contra-indications to sea-bathing are the extremes of age; before 2 years and after 50 to 55 sea-bathing should be forbidden, but washing with warm sea-water may be permitted. Do not send to the seaside those irritable subjects, children in whom you observe what is called cerebral irritation, the children of hysterical or epileptic parents. Even without bathing, the sea-air excites them; and many attacks of congestion, and even

* The Diseases of the Blood-Vessels of the Ovary in Relation to the Genesis of Ovarian Cysts. (*Amer. Journ. Obstet.*, vol. xiii, p. 1.)

meningitis, have arisen thus. Amongst adults, do not allow bathing to plethoric subjects of apoplectic tenderness, nor to patients with cerebral or spinal diseases. Chorea should only be sent to the sea when the nervous symptoms have disappeared, at which time the debility resulting may be much improved. Hysteria and epilepsy have been already spoken of. Rheumatism, cardiac disease, albuminuria, and Bright's disease, are all equally better away from the sea. The same is true of all cutaneous affections, ophthalmias, and chronic inflammation of the mucous membrane of the external auditory meatus. In cancer and tubercle, little good can be hoped for. In many cases harm results; in some cases of tubercle there is undoubted benefit, but such cases are exceptions.

Cases of chronic catarrhal bronchitis, emphysema, and asthma, should not be sent to the sea-side. Finally, young girls with ovarian pain and dysmenorrhoea should be recommended sea-bathing with great caution, on account of its liability to produce pelvic congestion. The principal indication for sea-bathing is scrofula; scrofulous enlargements of glands, scrofulous joints, especially white swelling, scrofulous ozena, chronic scrofulous bronchitis; also rickets, chlorosis, the anaemia produced by dwelling in large towns, atonic dyspepsia, infantile paralysis, and the paralysis of convalescence. All children benefit by going to the sea, except those in whom the contradictions already noticed exist.

ROBERT SAUNDY, M.D.

GOLGI ON THE CENTRAL ORIGIN OF THE NERVES.

In a paper read in the Anatomical Section of the Medical Congress, held in Genoa in Sept. 1880, and published in the *Giorn. Internaz. delle Scienze Med.*, 1881, Fasc. 3, Professor Camillo Golgi gives the results of observations which he has made on the relation between the nerves and the ganglion-cells of the brain and spinal cord.

He commences by referring to the present imperfect and unsettled state of our knowledge respecting the mode of connection between the ganglion-cells and nerve-fibres; and selects for special remark the doctrine founded on the researches of Deiters, Schultze, Koschewnikoff, and Gerlach, that the ganglion-cells give origin to nerve-fibres in two essentially different ways, viz.: 1. directly, by means of a special prolongation which goes to form the axis-cylinder of a nerve-fibre; 2. indirectly, through the medium of a network, formed on the one hand by the subdivision of so-called protoplasmatic extensions of the cell, and on the other by similar subdivision of the axis-cylinder of the nerve. This opinion, however, he holds not to be based on anatomical facts; and he has carried out a series of researches, with the result, he believes, of settling the question of the origin of the nerve-fibres as soon as some matters of secondary importance shall have been determined. Reserving to a future occasion a detailed account of his investigations, with appropriate figures, he at present simply enumerates the facts which he has observed.

There are indeed, he says, certain secondary morphological differences in the mode of origin of the nerves in the different parts of the cerebro-spinal axis; but with regard to the essential relation between the ganglion-cells and the nerve-fibres, there are constant laws and an absolute correspondence

everywhere. Nerve-cells may be distinguished by an expert observer from other cellular elements by the form, appearance, and their prolongations and the mode of their ramifications: but he holds that none of these characters can be regarded as absolute, and that it is often impossible to determine by them whether a cell belongs to nervous or to connective tissue. The only absolute characteristic of a nerve-cell is the presence of a prolongation, always single, different from all the others, which becomes continuous with one or more nerve-fibres. The so-called protoplasmatic prolongations are neither directly nor indirectly connected with nerve-fibres; they are, on the other hand, intimately connected with the blood-vessels and the connective-tissue cells, and are probably the means of transmission of nutritive material to the ganglion-cells.

The nerve-cells of all the divisions of the central nervous system, without exception, are connected with nerve-fibres by one only of their prolongations (generally called Deiters' or the axis-cylinder prolongation, but which Dr. Golgi calls the nervous prolongation). From this point of view, all the central nerve-cells must be regarded as unipolar. Contrary to the statement of Deiters and other anatomists, Dr. Golgi holds that the prolongation does not remain single, becoming connected with one nerve-fibre alone, but that in general it divides, at a greater or less distance from its origin, into a number of filaments which are in connection with an equal number of nerve-fibres. He believes that, while some of the nervous prolongations go directly to the nerve-fibres, perhaps giving off some lateral filaments, others form a diffuse nervous network. From a study of the distribution of the cells, he believes that those cells whose prolongations pass direct to the nerves are motor or psycho-motor, while those which give rise to a network are sensory or psycho-sensory.

The network above referred to exists in all the layers of grey matter in the central and nervous system, and consists: 1. of fibres emanating from the nervous prolongation of cells of the first category (motor cells); 2. of prolongations from cells of the second category (sensory); 3. of fibres emanating from the axis-cylinders of nerve-fibres, which enter the grey matter and become continuous with the prolongations of the cells of the first category; 4. of axis-cylinders which break up altogether into very fine filaments and aid in forming the network.

Professor Golgi believes that the connection formed between the motor and sensory fibres through the participation of axis-cylinders of motor nerve-fibres in the network, affords an easy explanation of the phenomena of reflex action.

These general laws of the origin of nerve-fibres are founded on minute examinations of the spinal cord, cerebellum, and brain. While, however, there is a general correspondence between the several parts of the central nervous system in regard to the matters above referred to, there are sufficiently notable differences in other parts, such as the form, size, and arrangement of the ganglion-cells, and the course and destination of the nervous prolongations from them. In the present paper, Dr. Golgi gives the following summary of the results of his researches on the spinal cord.

1. All the ganglion-cells of the spinal cord, without exception, are provided with a spinal prolongation, by means of which they come into relation with nerve-fibres.

2. The ganglion-cells, both of the anterior and

posterior cornua, and of the intermediate zone of the spinal cord, are in relation with nerve-fibres through one only of their prolongations, which Professor Golgi terms the nervous prolongation. Hence, viewed with regard to their special functions, all the nerve-cells of the spinal cord may be considered to be unipolar.

3. The differences between the cells of the grey matter of the spinal cord, as to their form, size, and the mode of ramification of their prolongations, are of secondary importance, and probably inherent to local conditions of development: the only difference of importance consists in the manner of disposal of the nervous prolongation.

4. In relation to the disposal of the nervous prolongation, two types of ganglion cells may be distinguished in the grey matter of the cord: (*a*) Cells whose nervous prolongation is broken up into very fine fibrils, and is occupied entirely in the formation of a diffuse nervous network; (*b*) Ganglion-cells whose nervous prolongation, perhaps with the addition of some fibrils, maintains its individuality, and goes to form the axis-cylinder of a nerve-fibre.

5. The fact that cells of the first type are generally met with in the zone of distribution of the posterior nerve-roots (posterior cornua in general, and especially the *substantia gelatinosa* of Rolando), while those of the second type are found principally in the range of distribution of the anterior roots, suggests that the former are connected with sensation, and the latter with motion. This supposition receives much support from the fact that in other regions of the central nervous system, such as the more superficial layers of the corpora bigemina, where fibres which are beyond doubt sensory (those of the optic tract) are distributed, cells of the first type are found exclusively, or at least greatly predominate.

6. The grey substance of the spinal cord contains a diffuse nervous network, which passes through the medulla oblongata, and is continuous with the fine nervous network which exists in all the layers of the grey matter of the brain. As far as regards the spinal cord, this network appears to be composed—(*a*) of fibrils, resulting from the complex subdivision of the nervous prolongations of the ganglion-cells of the *substantia gelatinosa* of Rolando, and of a part of the ganglion-cells of the posterior cornua, properly so-called; (*b*) of nerve-fibres of the posterior roots, which subdivide in identically the same manner as the above-named prolongations; (*c*) of fibrils emanating from those nervous prolongations which, nevertheless, preserve their individuality (cells of the anterior cornua, some of the cells of the posterior cornua, and others dispersed here and there in the intermediate zones); (*d*) of fibrils emanating from the nerve-fibres of the anterior, posterior, and lateral columns, and entering obliquely or horizontally into the grey substance, where they subdivide in exactly the same manner as the fibrils derived from the nervous prolongations.

7. Any argument on an anatomical basis as to the functions of a ganglion-cell or of a group of such cells in the spinal cord, must be founded solely on a consideration of the appearance, course, and relations of the nervous prolongations.

8. In the grey substance of the spinal cord, in general, it is not possible to give a precise topographical description (as most histologists have desired to do) of the groups of ganglion-cells, since there are very great differences even in closely adjacent regions; on the other hand, such a grouping would be irrational, since it can only be said, from

a consideration of the course, appearance, and relation of the nervous prolongations, that a certain physiological destination corresponds to the individual groups in one locality or another. It may not unfrequently be observed that cells lying in close proximity send their nervous prolongations in opposite directions, evidently to separate destinations. For instance, Dr. Golgi has noticed that, of two cells lying in the neighbourhood of the lateral columns, and almost in contact, one sent its nervous prolongation in the form of an arch to the corresponding lateral column, while the nervous prolongation from the other passed through the anterior commissure into the grey matter of the opposite side.

9. Since it is at present impossible to formulate any general laws as to the distribution of the groups of ganglion-cells, and the destination of their nervous prolongations, all that can be now done is to take account of the greatest possible number of special cases, in the hope that these, co-ordinated with others, may perhaps serve as a basis for such laws.

Regarding the appearance and course of the nervous prolongations, Dr. Golgi is able to furnish the following facts.

To the first category of ganglion-cells—those of which the nervous prolongation subdivides, forming a network—belong (*a*) the cells of the *substantia gelatinosa* of Rolando; (*b*) a large number of the cells belonging to the zone of grey substance situated in front of the *substantia gelatinosa* (the posterior cornua properly so-called); (*c*) some cells irregularly scattered here and there in the zone lying between the anterior and the posterior cornua, some belonging rather to the anterior cornua.

To the second category of cells, those whose nervous prolongations, while giving off some fibrils to form a network, go to form the axis-cylinder of nerve-fibres, belong (*a*) the great majority of the ganglion-cells of the anterior cornua; (*b*) similar cells belonging to the posterior cornua properly so called; (*c*) other cells situated in the zone lying between the two preceding, and especially those in the neighbourhood of the lateral columns.

With regard to the course and destination of the nervous prolongations of the cells of the second category, Dr. Golgi has made the following observations.

(*a*) The majority of the ganglion-cells of the anterior cornua send their nervous prolongations, sometimes pretty directly, sometimes after a very irregular coil, into the anterior columns and roots: a not inconsiderable number of them, however, send their prolongations through the anterior commissure into the columns of white substance on the opposite side; while some of the cells of the anterior columns send their prolongations into the lateral and antero-lateral columns.

(*b*) Of the cells in the posterior cornua, Dr. Golgi has seen some sending their prolongations into the postero-lateral columns, some into the lateral columns: and in some cases he has seen nervous prolongations in the region of the anterior cornua, without being able to trace them to their ultimate destination. In some cases, he has found that the nervous prolongation of cells of the posterior cornua of one side passed through the anterior commissure, and became connected with the nerve-fibres of the anterior columns of the opposite side.

(*c*) The nervous prolongations of a group of cells situated at the side of the central canal were seen by Dr. Golgi to pass in predominating numbers to the anterior column of the other side through the

anterior commissure; while some of them were traced to the lateral columns of the corresponding side.

(d) The cells in the zone of grey matter lying nearer to the lateral columns mostly send their prolongations into these columns: but not a few of the prolongations pass through the commissure to the opposite side of the spinal cord.

Dr. Golgi says that the prolongations from the cells of the anterior and posterior cornua, and of the intermediate zone, which pass through the commissure, give origin in their course, sometimes before reaching the commissure, sometimes within or beyond it, to fibrils which go to form the network above mentioned. He has not always been able to convince himself that the nervous prolongations passing through the commissure became actually connected with the columns of the opposite side; in some cases, it appeared to him that the prolongations were subdivided into numerous fibrils, which formed part of the network. But he intends to make more minute remarks on this subject.

A. HENRY, M.D.

ERB ON THE REFLEXES.*

ALTHOUGH physiologists have busied themselves extensively with the study of reflex action in general, that branch of the subject which is of practical diagnostic value has been comparatively neglected. There is room for much valuable work even on the healthy subject, upon the reflex movements brought out by the stimulation of various parts of the body; and to the practical physician the subject is one of great importance.

The principal reflexes of diagnostic value are the skin, tendon, pupil, palate, and sphincter reflexes.

SKIN-REFLEXES.—These are limited in health to certain parts of the body.

The reflex movement produced by tickling the *sole of the foot* is best seen in children and in 'nervous' people. It varies greatly within normal limits, and with these variations it is necessary to become familiar before drawing diagnostic conclusions. This reflex is best tested by drawing the finger-nail or the handle of a percussion-hammer quickly from toe to heel. The result, as seen on the healthy man used for illustration, is a contraction of the quadriceps extensor. A slight contraction appears also in the muscles on the front of the leg, so that the foot is flexed as well as drawn away. In the foot itself no reflex is seen. This is the only normal skin-reflex about the foot, except sometimes a slight contraction when the dorsal surface is pinched.

Cremaster reflex.—On stroking the anterior and internal surface of the thigh, a contraction in the cremaster muscle is seen to follow, by which the testicle is elevated. In a similar manner, the scrotal muscles contract when we pinch the skin of the scrotum. These contractions are, under abnormal conditions, much decreased, and are normally more marked in boys than in adults.

The *abdominal reflex* is best tested with the patient lying down, as the abdominal muscles in the erect position are very tense. The abdomen should be unexpectedly stroked, and will immediately retract. This reflex is easily wearied by a few repetitions.

Mammillary reflex.—In the normal subject, the

nipple on being stroked becomes hard and elevated, that is, assumes a state of erection. At the same time, the areola is drawn together.

Palpebral reflex is tested by approaching the eye quickly with the finger or by stroking the cilia. Under pathological conditions the conjunctiva may be touched to determine if palpebral reflex exist, though of course in health this stimulus is never necessary.

The foregoing are the only skin-reflexes found in the normal subject. In disease they may be wanting on the one hand, or increased on the other, and new skin-reflexes may be developed.

TENDON-REFLEX.—The value of the tendon-reflex in diagnosis was discovered in 1876, since which time the literature on the subject has multiplied rapidly. This phenomenon is produced by the stimulation of certain tendons, for example, that of the quadriceps extensor femoris. That the reflex is produced by stimulation of the tendon, and not of the skin, is easily shown on animals by removing the skin over the tendon; on man, by pushing the skin over the tendon to one side and stimulating it. This reflex appears in the healthy subject on stimulation of the tendon of the quadriceps femoris, of the triceps, and of the tendo Achillis.

Patellar tendon-reflex.—This is by no means easy to demonstrate in all cases in which it exists. The knee of the leg to be tested is crossed over that of the other, and the leg allowed to hang down with no muscular effort on the part of the patient. This position is preferable to the recumbent, for in the latter position the tendon is relaxed, the reflex being in all cases best obtained when the tendon is slightly stretched. A short, sharp, light stroke is given with a percussion-hammer on the tendon, just below the edge of the patella. The result in health is a contraction of the quadriceps muscle. The great difficulty to contend against is involuntary muscular effort on the part of the patient. The phenomenon is in health almost constant; but, as it is wanting in one and a half to two per cent. of normal subjects, its absence cannot be taken for an absolute sign of disease, which is an important fact to bear in mind. The patellar reflex may be, in disease, increased to such a degree that the least touch calls out a series of clonic contractions, or it may, on the other hand, be entirely wanting. It is wanting in tabes dorsalis, for example, and in atrophic paralyses, either of peripheral or of spinal origin. It is generally increased in cases of spinal lesion in the dorsal region.

Reflex of the tendo Achillis is tested as follows. The foot is held at a right angle to the leg, in order that the tendon may be slightly stretched. The tendon is then struck lightly, about two and one half finger-breadths above the apex of the heel. A slight extension of the foot results in the normal subject. About the lower extremities there are no more normal tendon-reflexes, except sometimes a slight contraction of the adductors on striking the inner surface of the thigh.

Triceps reflex.—This is called out by striking the tendon just above the elbow, the arm being held in a position of flexion. A slight reflex may be sometimes found in the biceps and in the flexors of the wrist, on striking their respective tendons. These reflexes are, however, very inconstant in health. In disease they may be very marked.

Here is a patient with an organic central lesion. He has a spastic gait, his legs are stiff, and he almost hops on his toes. In a patient with this gait, we generally find exaggerated reflexes. On attempting to bend his knee we find a powerful resistance due

* Notes from one of Professor Erb's Lectures on the Diagnosis of Diseases of the Nervous System. Leipzig. By Geo. L. Walton, M.D.

to involuntary muscular contraction. We find an immense reflex following the slightest stroke on the tendon, not only below the patella, but even above it, over a triangular space which represents the spreading of the tendon. This reflex is in some cases so much exaggerated, that one stroke is followed by a series of clonic contractions.

In such a case as this one, the reflex of the tendo Achillis is best tested by holding the foot in the hand with the thumb to the dorsum of the foot. The foot is now bent with a quick jerk towards the knee, and pressed firmly, though not too forcibly, upward. The result is a series of contractions, each relaxation being followed by a fresh stimulus as long as the foot is held firmly upwards. The fact that this stimulus is enough to keep up the reflex, is in itself evidence of a pathological condition. This phenomenon is in some cases best demonstrated by holding the foot in a position of abduction, in others of adduction. The phenomenon is almost never to be produced in health, though in persons with weak nerves two or three contractions may follow. When, therefore, as in this case, a distinct series of contractions follow, a pathological state is almost surely diagnosed, probably an organic lesion in the cord or brain.

As we proceed in the examination of the case before us, we find that striking the inner surface of one thigh calls out contractions in the adductors of both thighs. A reflex also follows stimulation of the tendo tibialis postici as it passes the inner malleolus; also of the peroneal tendons as they pass under the outer malleolus; also that of the tibialis anticus as it passes over the ankle. Reflexes from the biceps and from the wrist flexors are marked. In this patient the plantar, abdominal, and mamillary reflexes are well shown.

The number of muscles exhibiting the reflex phenomenon may be in pathological cases much increased; the deltoid, the scapular, and the dorsal muscles, for example, being included.

PUPIL-REFLEX is of great diagnostic value, and is exhibited in two ways:—by narrowing on stimulation by light, and by widening on stimulation, for example, of the skin.

Pupil-reflex to light.—The patient is placed facing a window, and the hand of the observer is placed over the eye. On the sudden removal of the hand, the slightest contraction of the pupil is noticed. The eyes should not be closed by the hand, or its removal may be followed by a contraction of the pupil, due to the effort of accommodation, which must not be confounded with the contraction due to the stimulation of the light. This accommodative effort of the pupil, which is not a reflex phenomenon, may be separately tested by directing the patient to look first at a distant, then at a near object.

Pupil-reflex to other stimulation than that of light.—In sleep the pupils are very small. Let a person be suddenly awakened by a loud noise or other stimulus, and an extreme dilatation occurs. A similar dilatation may be brought about by a sharp stimulus to the skin. Let the patient look fixedly on a certain spot, say the observer's coat. If, now, the skin at the back of the patient's neck be pinched, a widening of the pupil ensues. The same reflex may be brought about by a strong faradic current, one electrode being placed at the back, and the other at the side of the patient's neck.

PALATE-REFLEX.—While the patient is breathing as quietly as possible, with the mouth open, the palate may be touched with the end of a pen-holder.

If the part is in the normal condition a retraction follows.

For the sphincter reflexes, we must depend in great measure on the history of the patient.

The reflex acts of coughing and sneezing may be tested if desirable, the former by powders blown into the larynx, or by observing the patient while choking, the latter by snuff or other irritating substance.

In pathological cases, a great variety of new reflexes appear, some following upon external stimuli, others upon natural acts of the patient. As an example of the latter, patients are seen, in whom the passage of a stool is followed by clonic contractions in the muscles of the legs.

Among the many illustrations of reflex acts following external stimulus may be mentioned vaginismus, also micturition brought about by the pain of introducing a catheter. In one patient with decubitus, washing the sore always induced an act of defecation. An interesting example of abnormal reflex action was seen in the patient, who, though paralysed from the neck downwards, made a movement with his arm to remove the catheter on every attempt at introduction.

POOLEY ON ANOMALIES OF PERSPIRATION.

Dr. J. H. POOLEY (*Ohio Med. Rec.*, Nov. and Dec. 1880, and Jan., Feb. and March 1881) writes as follows. The various anomalies of perspiration may be included under hyperidrosis, bromidrosis, chromidrosis, hæmidrosis, urinidrosis, phosphoridrosis, and androsis, or, in other words, excessive, odorous, coloured, bloody, urinous, phosphorescent, and deficient sweat.

1. *Hyperidrosis.*—Synonyms: Idrosis or Hydrosis Sudatoria, Ephidrosis, Polydrosis, Hydropidrosis, Hypercinnia Sudoralis, Excessive Sweating. By these various terms is designated a condition or disease which consists essentially in excessive secretion from the sudoriparous glands, without any perceptible change in their structure. It may be general, but except when it occurs as a concomitant of certain well-known diseases, such as phthisis or rheumatism, it is more commonly local, as of the hands or feet, or partial, being confined to a portion of the body, as one side, when it is called unilateral. The excessive secretion is in many cases strictly normal; in other cases it is abnormal, having either a decidedly acid or an alkaline reaction. In certain situations it may be fetid, as in the feet. Some of the subjects of this disorder seem otherwise to be in perfect health, but, in the majority of cases some concomitant disease is manifest, the most frequent complications being heart-disease, malaria, and particularly some one of the so-called neuroses; indeed, the weight of evidence is such as to lead us to believe the hyperidrosis itself to be essentially a neurosis of the sympathetic or vaso-motor system. It exhibits all grades of severity, from a slight increase of the secretion to such an excess that it pours in streams from the surface; it may be constant, but is usually more or less intermittent or paroxysmal; and may be increased by various excitements or stimuli, both physical and mental. In some recorded cases, the temperature of the affected part is increased; in others it is decreased. Generally, the annoyance to the patient is confined to the mere presence of the excessive moisture; sometimes disagreeable or painful sensations

are present, such as tingling, pricking, a sensation of bursting, etc.; the general health does not appear to be much affected. The locality of the body from which the sweating comes is very various. The palms of the hands, one side of the head and face, a small area on the point of the chin, the soles of the feet, or one side of the trunk. Sometimes the hands and feet sweat simultaneously, the rest of the body remaining unaffected. [The cases cited are very interesting, but we have no space to give them.—Ed.] In the treatment of this affection—*i.e.*, unilateral and profuse general sweating—the whole round of the materia medica seems to have been tried. Ringer found some form of belladonna useful in a majority of cases, while in a few cases it not only did no good, but did positive harm. It may be used locally in the form of tincture, liniment, or ointment of belladonna, or solution of atropia. The most active internal remedial application or administration of the drug is undoubtedly the hypodermic injection of atropia, in doses varying from 1-100th to 1-50th of a grain. Electricity has been tried, and has been successful in at least one recorded case, while Vignard was successful with sage-tea. In fact, this homely domestic remedy is more worthy of confidence than most practitioners are willing to allow. The addition of alum or sulphuric acid to the sage is said to render the action more prompt and satisfactory. Some use ergot with apparent success, while others do not see any benefit follow the administration of it. The same may be said of the oxide and sulphate of zinc. Pilocarpine hypodermically, in a case of unilateral sweating, was successful in one case and failed in another. Stramonium to intoxication in one case cured a neuralgia and unilateral sweating. The 'sweating sickness' was epidemic in England and spread over the kingdom in 1485; again in 1506; a third time in 1517. On this occasion, it proved rapidly fatal in a few hours. The first shivering fit was regarded as the announcement of certain death, and many who were in apparent health at the noon hour were dead at evening. The fourth and most fatal outbreak began in England in May 1528, and in the following year spread to Germany, where, on account of the great mortality accompanying it, it was the means of settling the dispute between Luther and Zwingle in regard to the Eucharist. This epidemic spread to the Netherlands, Denmark, Sweden, and Norway. Its fatality was much increased by the absurd treatment which was given the sick; the people, fully believing that the patient must sweat for the whole of twenty-four hours if he would recover, put him to bed, covered him with feathers and furs, and closed the room; then, heating the stove hot, kept the patient in what the historian calls a 'rehearsal of hell', until, in an agonising sweat, the poor man gave up the ghost, when perhaps a little refrigerating treatment would have saved him. The fifth epidemic of this singular disease occurred in England in 1551, since when it has not made its appearance as an epidemic. The pathology is not known.

11. *Anhidrosis*.—This is the opposite of hyperhidrosis, and occurs in the course of certain chronic diseases of the skin. It is particularly noticeable in ichthyosis; also in patches of eczema, psoriasis, and elephantiasis Græcorum; also in elephantiasis Arabum. It may also exist from congenital deficiency of the sweat-glands, in which persons perspire but very little, and sensibly, if at all, only under high temperatures. The treatment of this condition is to restore the health of the skin wherever it is diseased, and

then such means as Turkish and other baths, with frictions, may be tried. Of drugs, jaborandi or its alkaloid, pilocarpine, may be used.

III. *Bromidrosis*.—Synonyms: Osmidrosis, Ephidrosis Oleus, Odorous Sweat, Stinking Sweat. Strictly speaking, bromidrosis means sweating of any unusual and offensive odour, and that is the signification of the term in this lecture. However, when the perspiration has a strong smell, it has also a superabundance, and might more properly be called ephidrosis oleus, but this is a compound name, and is usually discarded. The treatment consists in the use of astringents and antiseptics. For bromidrosis localis of the feet, a powder composed of one part of salicylic acid and five of starch may be put into the patient's stockings. Sweating of the thighs and scrotum may also be powdered with the same. The following powder may also be used on the feet. R. Acidi salicylici, grā. x; acidi tannici, grā. xv; talc preparatæ, pulv. iridis florent., āā 3 ss. M. The daily application of this powder around and under the toes reduced the sweat to the normal and banished the fetid odour. Of the various other methods employed, none seem more promising than the above.

IV. *Chromidrosis*.—Synonyms: Ephidrosis Discolor, Coloured Sweat, etc. Chromidrosis is a rare disease. Of the various colours, yellow is the most rarely met with, except when it occurs as a complication of jaundice. The next rarest is the green, unless it occur from copper poisoning. The commonest hues presented by this chameleon disease are black, brown, and blue. The blue is more properly blue-black generally, but occasionally it is of a real azure hue. The colouring matter in these three forms is probably identical—most likely indican—which, as it normally exists, is colourless, and occurs pathologically in human urine. The indican is believed to be secreted by the sweat-glands in a colourless state, and to be so acted upon by the air as to become oxidised into blue, brown, or black, as the case may be. But the blue may be due to the presence of the protosulphate of iron in the sweat. The red colouring matter of the urine (uro-erythrine) has been found in the perspiration by Landerer; a blue colouring matter allied to cyanine has also been found in the sweat. The amount of secretion in chromidrosis may be very slight, or it may be excessive in quantity. As a rule, the flow is not constant, but appears suddenly, remains for a short time, and then disappears. It may come and go in this manner for weeks or months. It is frequently brought on by excitement, or emotion, or passion; fright is often mentioned as a cause, but it may appear without any exciting cause. As far as known, it is never universal; various regions may be attacked, but it has been noticed most frequently upon the face, chest, abdomen, arms, hands, and feet; the lower eyelids and cheeks seem to be its most favourite seat. But little can be said of the treatment of these cases. In the yellow sweat of jaundice, of course we should cure the jaundice. For the green metallic sweat, get out of the work that causes the metallic poisoning, and get rid of the metal by proper medication. But there is no known specific for the usual cases of chromidrosis.

V. *Hamatidrosis* is a rare affection. It has always excited the interest and attention of medical observers, and consists essentially of a hæmorrhage from the unbroken surface of the skin. But this hæmorrhage takes place from the capillary system of the sudoriparous glands, and makes its appearance upon the surface through the sweat-ducts. It

is not inappropriately, therefore, called bloody sweat. Its amount varies extremely, from a large amount of thick blood that will clot upon the surface, to a small amount of bloody serum of only passing moment. It may make its appearance upon nearly the whole surface, or it may be confined to some selected regions, generally those in which the skin is thin and delicate. It is often associated with erythematous or vesicular eruptions upon the skin, but quite as often there is nothing of the kind. It has been found in every age and in both sexes. It sometimes appears as vicarious of the menstrual function, but as a general thing this peculiar form of sweat is a matter of no great practical importance, although it may be of great interest as a curiosity. The treatment of this rare affection seems to be mostly to ascertain the cause and treat that, leaving the local affection to be arrested as the general symptoms improve. In case of the bloody sweat vicarious of menstruation, judicious monthly bleeding would seem to be indicated.

VI. *Galactinidrosis* is best noticed by saying that properly there is no such thing, although the older writers insisted that there was such a disorder. Before the microscope revealed so much to the unaided eye hitherto unknown, it was thought that there might be a metastasis of milk, but now no one who is at all well informed even guesses any such thing.

VII. *Urinidrosis*.—The cases of this trouble are few, and only occur where the urinary secretion is defective and the perspiration takes on an urinous odour. It is not yet demonstrated that urea exists in the blood, even in these cases. The perspiration may be general or local.

VIII. *Phosphoridrosis*.—Of all the anomalies of perspiration, this is perhaps the most curious. But few cases are recorded, and of these none seem to belong to America.

[It may truly be said that most of the cases recorded as coming under the various anomalies of perspiration are more curious than practical.—ED.]

LANGE ON THE PATHOLOGY AND TREATMENT OF CERTAIN FORMS OF NEURALGIA.

AN elaborate article on this subject, by Dr. C. Lange of Copenhagen, has been published in the *Hospitals-Tidende*, Series 2, Band vii, pp. 703, 721, 781, 801, 821, and 849.

In several cases of sciatica, where the patient could not submit to a long course of treatment, Dr. Lange had recourse to an old remedy—cauterisation of the helix of the ear, by means of Vienna paste, with strikingly good result. Eight cases in which this treatment was employed are related. In a case of reflex sciatica (from renal calculus, in one of recent peripheral sciatica, and in a very old case, the treatment was without essential influence, with, perhaps, the exception in one case of some temporary alleviation; in the other five cases, very remarkable relief from pain was at once obtained, and continued as long as the control could be maintained, until the case ended, in the course of a short time, in complete or nearly complete cure. The author admits that this treatment is attended with the disadvantage of leaving the ear deformed by scars.

Dr. Lange remarks that neuralgia in the region of the supra-orbital nerve presents a number of peculiarities which are generally not rightly estimated.

Thus it presents an usually perfectly regular intermittent type. This is generally attributed to an assumed connection with malarious infection, which, however, the author believes to be by no means the rule, and certainly has not been the case in his experience. Another peculiarity is the tendency of the affection to periodicity. It is very common to see it appear for two weeks or longer, and then cease, returning after the course of several months. Sometimes it appears at certain times of the year. Moreover, the pain appears in many cases on both sides, either being first confined to one side, and then, after the course of some time, being felt in a slighter degree also on the other; or commencing on both sides, and afterwards being limited to one; or, finally, affecting first one side and then the other. It attacks by preference young individuals; but the author has never seen a case under twelve years of age. The prognosis appears to be good, and the action of galvanism (the constant current, the anode being placed over the supra-orbital nerve) is well marked.

Regarding the diagnosis of *tabes dorsalis* in an early stage, Dr. Lange makes some remarks founded on a considerable number of cases, several of which are related. He gives first a case in which the initial pains were absent; this, however, he regards as being very rare. He next remarks that they by no means always commence in the legs. In the first case related, in illustration of this fact, the pains began in the thorax, and afterwards affected the upper limbs; after this, there were anaesthesia of the chest and dysaesthesia of the hands; in the lower limbs, pains and anaesthesia did not appear until later. In the next case, the patient had for many years only pain in the chest, of a rather vague nature, and not presenting the character of intercostal neuralgia. In another case, there were at first constricting pains about the chest; then followed anaesthesia of the body and upper limbs, and ataxy of the arms; and, later on, pains and ataxy of the lower limbs. In another case, pain and dysaesthesia, and afterwards ataxy, occurred in the arms before the phenomena of the disease were met with in the legs.

Another circumstance which may cause difficulty in making the diagnosis of *tabes* in the earlier stages is the limitation of the symptoms to one side for some time. This also may be regarded as a rare occurrence; but that it may occur is sufficiently proved by a case related. In this case, the morbid phenomena first appeared in the trunk. Dr. Lange also relates several cases of rapid, truly acute, *tabes*, not, as is usually the case with the cases described as acute, preceded by a premonitory stage. In one case, the disease appeared after exposure to cold and damp (there was, however, a history of syphilis); in another, the patient was attacked during convalescence from an acute illness. Dr. Lange ascribes no small diagnostic importance to the absence of the knee-phenomenon. He relates, however, a case in which it was abnormally strong. He has had about eighty cases, of which four have been quite cured.

A. HENRY, M.D.

TALAMON ON THE CARDIAC LIVER.*

THE influence of the heart on diseases of the liver has recently formed the subject of a remarkable thesis by M. Talamon, who studies these facts from

* *Talamon sur le Foie Cardiaque*, 8vo, 64 pp.; Germer Baillière.

the anatomical point of view, but insists on certain clinical considerations of great importance. From the anatomical point of view, M. Talamon demonstrates that in old diseases of the heart cirrhosis of the liver exists very often, and that this cirrhosis starts then, not from the central vein of the lobule, as is generally admitted, but from extra-lobular lesions very analogous to those observed in ordinary cirrhosis of drunkards. Some clinical facts of importance are pointed out by M. Talamon, in relation to cardiac ascites and the determination of cardiac hepatitis by grave icterus. This symptom may, in relation to ascites, be considered in two different manners; most commonly, indeed, the ascites is in proportion to the cardiac disorder, and progresses parallel with other infiltrations. But there is another form of cardiac ascites rarer than the foregoing, of which the interpretation is open to doubt. There is no longer any synchronism between the evolution of peritoneal effusion and that of the œdema of the lower limbs. While digitalis and the regularisation of the cardiac pulsation cause subcutaneous œdema to disappear, ascites persists. Puncture temporarily relieves the ascites, but the effusion is not long before it reappears, and that without any reappearance of the œdema of the lower limbs, and without the weakening of the myocardium being apparently at fault. The cause of this ascites resides in the liver, but it is variously explained. Simple stases of the blood, by interfering with the circulation, perihepatitis, which is almost constant in these cases, and which produces excessive secretion of the peritoneal fluid, have alike been suggested. M. Talamon thinks that these cases confirm the existence of cirrhosis such as he has often had occasion to observe, and such as he has described as having much analogous with common cirrhosis. The ascites which occur with these characters indicates, therefore, a peculiar gravity in the state of the patient attacked with the cardiac affection, which is at its point of origin. The icterus which occurs in cardiac cases may also itself be of two origins: sometimes the case is one of simple icteric suffusion of no importance; sometimes, and this is a fact little known, that subicteric tint may become so marked as to constitute deep icterus, and the icterus assumes such proportions, such gravity, that it completely dominates the pathological condition. M. Talamon cites four observations in which a yellowish tint was seen in the course of an attack of systole, at first in the face and the conjunctivæ, and then extending over the whole body, becoming deeper and deeper in tint, and this icterus terminating more or less rapidly by death, with a general series of symptoms, recalling that of grave. At the same time that the icterus became deep, these patients took on in fact a typhoid aspect, the lips and tongue became dry and incrustated with blood and fuliginous substance. There was continued subdelirium with nocturnal agitation; then supervened a state of semi-coma, the patients remaining immobile, and dorsal decubitus. The coma subsequently became deeper, and they died in this state without fever or convulsions. The liver had at first increased a little in size, and then progressively diminished until it did not measure more than 7 and 5 centimètres over the mammary line. Death occurred in one case at the end of twenty and of thirty days. At the necropsy, atrophic lesions of the liver were found, that is to say, more or less general destruction of the hepatic cells.

Thus, whenever icterus is seen to occur in a

patient suffering from a systolic heart-disease, an unfavourable prognosis must be made. For this a condition of systole is necessary; for, if the heart continue to beat regularly, the hepatic circulation being normally performed, there is evidently no reason to fear defect of action in the hepatic cells of icterus may have fatal consequences; but, even in cases where the icterus does not take on a menacing aspect, it must not be forgotten that disease of the liver occurring in an individual whose heart is diseased is a complication requiring to be watched. From the point of view of treatment it should be remembered that, according to Stohl, the best means in the case of hepatic complication consists in the repeated employment of mercurial preparations, which are perfectly well supported by these patients.

LEBLANC AND BOULEY ON PREVENTIVE AND PRESERVATIVE INOCULATION.

THIS paper (*Revue Médicale*, tome ii, October 1881) was read before the Académie de Médecine in answer and opposition to one read by M. Bouley on the preventive and preservative action of the inoculation of pleuropneumonia, also called Willem's method. M. Leblanc, while maintaining a spontaneous origin of this disease, is opposed to inoculation both as a preventive and a preservative. His reasons are based partly on the report of the French commission of the year 1850, and partly on his experience obtained in some epidemics of more recent date.

During an outbreak of pleuropneumonia in the dairy of M. S. in Auteuil, lasting from December 1879 till October 1880, thirty-three animals were inoculated, but only twelve escaped the disease, and so did two that had not been inoculated. During an invasion by pleuropneumonia of the stables of the school of Alfort, in November 1880, the inoculation had no effect in staying the plague; the majority of the beasts had to be slaughtered. In the neighbourhood of Melun, a farmer had a herd of 120 fine Normandy cows, which had been recently contaminated by six Flemish cows newly acquired. M. Trosbut advised the inoculation; 112 cows were inoculated; all without exception had to be killed or handed over to the butcher.

The veterinary surgeon Villeyn inoculated at Ecloo on the 27th June a whole stable; the epidemic nevertheless persisted, and five animals had to be slaughtered. Finally, the town of Hasselt, the birth-place of Willem's method, i.e., of inoculation, is just the place where the disease makes the greatest ravages.

In answer to M. Leblanc and his negative results of the inoculation, M. Bouley, in a paper read before the academy (*La France Médicale*, October 4, 1881), mentions the undoubtedly positive results obtained by himself, M. Chauveau, and others. Animals inoculated with pleuropneumonia have been made immune against the disease.

M. Bouley then goes on to give the results of the experiments by M.M. Arloing, Cornevin, and Thomas on symptomatic charbon recently carried out at Chaumont, and witnessed by M. Bouley in his official capacity. They found that, by injecting the bacterial virus of this malady into the tissues, the disease is produced in its fully developed form; while by injecting it into the vein, the animal, beyond a slight and passing fever, does not develop the characteristic external tumours, but immunity is nevertheless hereby conferred.

E. KLEIN.

HAMILTON ON SPONGE-GRAFTING.

MR. D. J. HAMILTON (*Edin. Med. Jour.*, Nov. 1881), as the results of his investigation into the mode of organisation of blood-clot, has suggested the application of pieces of aseptic sponge, to fill cavities in old ulcers and other wounds with granulating surfaces, and has succeeded in obtaining organisation, and filling of the cavities, with healing of the wound. He prepared the sponge by dissolving out the siliceous and calcareous salts, by means of dilute nitro-hydrochloric acid, subsequently washing it in liquor potasse, and finally steeping it in 1 to 20 solution of carbolic acid in water. The sponge was made to fit the wound very accurately, and was inserted beneath the undermined edges. A piece of green protective was placed on the surface, and above this lint soaked in a 1 to 2 solution of carbolic acid in glycerine, with a little tincture of lavender in it. The whole was covered with a pad of boracic lint. Dr. Woodhead, a pupil of Mr. Hamilton, carried out some experiments at his request, in Prof. Stricker's laboratory at Vienna, on the organisation of sponge, by inserting pieces of sponge in the peritoneal cavity, and between the muscular fibres of rabbits. From these experiments it appears that the pores of the sponge are at first filled with fibrin and leucocytes, and later on become vascularised by the protrusion into them of capillary loops, with the formation of spindle-cells and connective tissue. Giant-cells were frequently present. Mr. Hamilton contends that the vascular loops so protruded are not newly formed vessels, but simply the original capillary loops of the neighbouring tissues pushed by the pressure of the blood current into the empty pores, and that the organising cells are derived, not from leucocytes, but from the fixed connective corpuscles of the neighbouring tissues. ROBERT SAUNDY, M.D.

PTOMAINES.

UNDER this name a class of bodies has recently attracted the attention of toxicologists; and it will be well to summarise the observations which have led up to the discovery and recognition as a distinct class of those alkaloidal products of decay and putrefaction. An interesting summary of the observations already published on this class of bodies is given by Th. Husemann in a recent number of the *Arch. der Pharm.*, an abstract of which is contained in the *Jour. of the Chem. Soc. of London*, 1881, p. 57. Panum first showed that, by the putrefaction of albuminous substances, a soluble ferment is produced, insoluble in alcohol, withstanding the temperature of 100 deg. Fahr., and highly poisonous. Fagge and Stevenson also showed (*Proc. Royal Soc.*, 1865; *Guy's Hospital Reports*, 1865) that the alcoholic extracts of many *post mortem* liquids, even after exposure to the temperature of the water-bath, are possessed of toxic properties. Bergmann confirmed Panum's observations, and described a definite body, *sepsine*, as a product of fermentation. The researches of Panum and Schwenger showed further that, at different stages of decay, compounds varying in their physiological actions are generated.

Sonnenschein and Zuelzer discovered in poisonous sausages, and also in an anatomical maceration fluid, a peculiar alkaloid, resembling atropia in its physiological action; and they also noticed among the products of decay a substance which produced tetanic convulsions. The probable relation of these

products of putrefaction to certain diseases is shewn by the fact that Sonnenschein's alkaloid is found in the bodies of patients dying from continued fever; and individuals who have eaten decomposed food and been poisoned thereby, often show typhoid symptoms.

Lembroso and Erba showed that decomposed poisonous maize produced tetanic symptoms, and that the maize contained alkaloidal bodies. The tetanus is sometimes associated with, or masked by, narcosis, and with this may be associated the observation of Ranke, that the physiological action of impure strychnia extracted from putrefied corpses may be masked by ptomaines.

Ptomaines, discovered and named by Selmi, are alkaloids, generated during decay, and closely resembling the vegetable alkaloids, not only in their physiological effects, but also in their chemical reactions. Some ptomaines appear to be poisonous, others to antagonise known poisons, as Ranke's observations show; whilst others, again, appear to possess no marked physiological activity. That the ptomaines are not exclusively *post mortem* products has been shown by Spica, who obtained no fewer than four ptomaines from the fluid taken during life from a patient in a case of peritonitis; all were poisonous, though one only was so in minute doses, and the effects of this resembled those of curare.

Lembroso thinks that the tetanic and narcotic action of extract of putrefied maize, and its beneficial action on several skin-affections, point to the possible origin of pellagra in diseased or putrid maize. This would explain the prevalence of pellagra in the South European maize-growing countries; and assigns its cause to ptomaines. It is undoubted, however, that non-alkaloidal, and probably more or less toxic bodies, are produced during putrefaction, besides ptomaines. Thus lactic acid, and alkaline lactates, are formed during the putrefaction of maize; and Acby and Schwabenbach detected a compound ethereal salt in the extract of dead bodies.

Ptomaines are usually produced in substances which, after brief exposure, have been excluded from access of air, as in buried corpses, the internal viscera, sausages, and tinned foods; and then chiefly in the interior of the article. Cases, however, are known where similar principles have been present in comparatively fresh substances, which have been constantly exposed to air; and hence we must include under the name 'ptomaines' all alkaloidal products of decay, whether formed in the presence or in the absence of air. It is interesting to note that all animals are, apparently, not equally susceptible to the action of ptomaines. Thus, it is well known that putrefied flesh may be eaten by dogs with impunity. Jansen, who has described pretty fully the chemical and physiological properties of the poisonous ptomaines, states that the chief symptoms produced by them are contraction at first, followed by dilatation of the pupils; retardation of the heart, followed by irregularity in its beats; and convulsions. Selmi, and afterwards Brouardel and Boutmy, detected a ptomaine in the bodies of persons who had died from the effects of arsenious acid; and the latter observers have also found ptomaines in the organs of a person who had succumbed to carbonic oxide. They also state that each case of putrefaction does not give rise to a distinct ptomaine; for they found the same ptomaine after poisoning by prussic acid and carbonic oxide respectively.

Since ptomaines present in general the leading

properties, physical and chemical, of the vegetable alkaloids, as veratria, morphia, and codeia, they may readily be confounded with these. The proper mode of distinguishing between the two classes of bodies is to determine all the chief chemical and physical properties of the isolated base, and to compare these with those of the vegetable alkaloid whose presence is suggested. Unfortunately this can rarely be done, from lack of material to work upon. Hence Brouardel and Boutmy have endeavoured (*Comp. Rend.*, 92, p. 1056; *Ann. d'Hygiène*, tome v, p. 497) to find means sufficient in all cases to disclose the nature of the alkaloid extracted; and they think they have discovered such by making use of potassium ferricyanide and silver bromide as reagents. If a base be present, indicated by the formation of a precipitate with potassium iodo-mercurate, and this instantly change potassium ferricyanide into ferrocyanide, giving a precipitate of Prussian-blue on the addition of ferric chloride, a ptomaine is present; whereas precipitation by the iodo-mercurate, coupled with non-reduction of the ferricyanide to the ferrocyanide, shows that a vegetable alkaloid is being dealt with. Morphia and veratria, of the vegetable alkaloids are exceptions to the above reaction. Other vegetable alkaloids reduce the ferricyanide slowly; and certain artificial bases containing methyl and phenyl radicals also reduce the ferricyanide instantaneously. In applying the test, the alkaloid is converted into sulphate; and the solution is then tested with potassium iodo-mercurate to ascertain whether a basic substance be present. If so, a few drops of the solution of the sulphate are placed in a watch-glass containing a little solution of potassium ferrocyanide; and a drop of solution of ferric chloride is then added, when, if a ptomaine be present, a precipitate of Prussian-blue is produced. Gautier has confirmed the results of Brouardel and Boutmy; whereas Tanret (*Comp. Rend.*, 92, p. 1166) finds that ptomaines produce the above results only slowly, and as vegetable alkaloids also reduce the ferrocyanide slowly, the test is in a measure invalidated. Brouardel and Boutmy have, however, supplemented it by another—the reduction of silver bromide. If a piece of photographic paper imbued with the bromide be written upon with a quill pen dipped in a solution of the base, and the paper be placed in a dark room, and then washed successively with sodium hyposulphite and water, the characters traced upon the paper will be made manifest by reduction which has occurred, if a ptomaine be present.

THOMAS STEVENSON.

RENZI ON IODIDE AND BROMIDE OF POTASSIUM IN HEART-DISEASE.*

AN interesting review of an article on this subject, in the *Italian Medical Gazette* of January 1881, appears in the *Lyon Médical* of 10th July 1881. The writer of the article (Professor Renzi) has evidently studied with care the actions of three important drugs largely used now-a-days in cases of heart-disease—viz., bromide of potassium, iodide of potassium, and chloral-hydrate; and he has given some important information regarding them. Bromide of potassium is shown to have such a direct influence on the heart and capillaries, as to entitle it to a high position among the cardio-vascular drugs. According to Dr. Dujardin-Beaumetz, who considers

it one of the best heart-tonics we possess, the bromide, besides being a nervine sedative, acts directly on the heart, and lessens considerably any irregular action of that organ. He says that, as a nervine sedative, the drug is useful in counteracting the sleeplessness which so greatly enfeebls and wears out patients suffering from heart-disease, while its value in such cases is greatly enhanced by its direct beneficial action on the diseased organ itself. According to Professor Sée (largely quoted, along with Dujardin-Beaumetz, by the writer of the article), bromide of potassium is especially useful in heart-affections where we have diminished arterial pressure, rapid and irregular action of the heart, passive congestions, œdema, cyanosis, dyspnœa, and sleeplessness.

Iodide of potassium is shown to be very beneficial in dyspnœa arising from heart-disease. It is also of great value in arresting degenerative changes in the heart-tissue. The action of chloral-hydrate on the heart, as observed by Professor Renzi, is at once to diminish the rapidity of its action, and after a time to reduce its energy. The drug seems to act on the heart, by paralyzing either the cardiac ganglia or the vaso-motor centres in the brain. The researches of Claude Bernard, Rokitsky, and others, would indicate that the latter are chiefly affected by the administration of chloral, for they found that it caused great diminution of blood-pressure by dilatation of the capillaries.

In summing up his observations on the three drugs referred to, Professor Renzi says of bromide of potassium that it lessens the anxiety of patients suffering from heart-disease, gives them a certain sense of comfort, and enables them to breathe freely. Under its influence sleep is more easily obtained, is more tranquil, and of longer duration than when induced by other drugs. It is, moreover, a more natural sleep. The bromide reduces undue rapidity of the heart's action and of respiration. Cough, however, seems to be aggravated by the use of bromide of potassium alone.

Of iodide of potassium, he says that it is a most useful drug in diseases of the heart. One of its chief effects is a complete relief from dyspnœa and all asthmatic symptoms. Chloral-hydrate is not much esteemed by him. It can procure sleep of a kind, but is of no use in relieving the dyspnœa so troublesome in cases of heart-disease. It is, moreover, dangerous when given in conjunction with iodide of potassium, the latter drug apparently having the effect of greatly increasing its soporific action.

From Professor Renzi's summing up, it would seem that a combination of the iodide and bromide of potassium is a most beneficial remedy in cases of heart-disease. *London Medical Record*

DA COSTA ON ERGOTINE IN THE SWEATS OF PHTHISIS.

PROFESSOR J. M. DA COSTA, in a clinical lecture (*Medical News and Abstract*) delivered at the Pennsylvania Hospital, after passing in review various remedies which he had employed against the sweating of phthisis—atropia, salicylic acid, muscarine, picrotoxine, Dover's powder, oxide of zinc, the mineral acids, Calabar bean, etc.—pronounces in favour of ergotine as the remedy best calculated to relieve this troublesome complication. A great many of the agents employed in this condition are given empiri-

* translated in *Glasgow Medical Journal*.

rically, though some take into account the supposed pathology of the sweats, and apply the fine experimental therapeutical research of the laboratory to the benefitting of a serious symptom. The latter method might be followed with more accuracy were the pathology of the occurrence better understood; if it were known how it is that the morbid conditions act on the sweat-centres which are so profoundly disturbed. Both physiology and pathology are in this matter of sweating, alike in health and in disease, still a good deal in the dark, notwithstanding such excellent observations as those of Luchsinger, Nawrocki and Vulpian, and the increasing knowledge concerning the sweat-centres situated in the medulla and adjacent cord.

Experience in the use of atropia proved this article to be valuable in many cases, but it has many drawbacks, such as dryness of the throat, derangement of vision, and other constitutional disturbances, some of which may, however, be relieved by jaborandi. Dr. Da Costa has found in ergotine an agent which possesses some of the certainty and permanence of action of atropia, without its drawbacks. His first observations were made some years ago with the fluid extract of ergot; but he has abandoned this for ergotine as better and more easily administered. The power of ergot in contracting the arterioles and checking excessive discharges suggested its use in these sweats. The dose of ergotine is usually two grains three or four times a day, and by the second night its influence begins to be manifested. The remedy may then be continued, and gradually abandoned; it produces no annoyance whatever, and its good effects continue after it has been withdrawn. It will fail or lose its effect, as every other remedy will fail or lose its effect, in the treatment of such an unrelenting disease; but the proportion of failures is small, compared with that of the successes.

As compared with atropia, the immediate results of ergotine are far inferior; but, where speedy and decisive action is not demanded, where it is necessary to keep up a remedy for some time, and where to do so with atropia becomes very difficult, or occasions discomfort and distress, ergotine is an agent to which we may turn with confidence.

UNNA ON THE THERAPEUTIC APPLICATIONS OF PREPARATIONS OF SALVE AND PLASTER MUSLIN.

ONE of the greatest practical benefits which we owe to Hebra in the treatment of skin-diseases, was his suggestion that ointments, instead of being merely smeared on the affected part, should be spread thickly on linen and kept closely applied by bandages. Unna, in a paper on the subject (*Berliner Klin. Woch.*, July 4 and 11, 1881, and *Edin. Med. Journ.*), carries this a step further. He gives a series of formulæ for ointments, which are spread by the chemist on muslin, and pieces or strips of this salve muslin are cut off and applied at once. The bases of all the salves are hog's lard and beef-suet, singly or combined, and with one-tenth part of benzoic acid added to prevent their turning rancid. When the substance to be combined with these is a powder, it is first mixed with a little almond oil to dissolve it, and when a liquid, paraffin is added to render the ointment harder. To preserve an uniform firmness, two formulæ are given for each, one for winter, the other for summer. Sometimes a more

adhesive material than a mere salve is better, and these he names plaster-muslins; to these a little resin or other sticky substance is added. He claims simplicity and elegance for these. The prescriptions for some of them are as follows. The number first given is for cold, the second for warm weather salves.

1. *Lead Plaster-Salve Muslin*.—Emplast. plumbi simplicis, 10—10; sevi benzoinati, 10—10; adipis benzoinati, 2—0. 2. *Boric Lead Plaster Salve Muslin*.—Emplast. plumbi simplicis, 8—9; sevi benzoinati, 8—8; acidi boracici, 2—2; olei amygdalæ dulcis, 2—1. 3. *Chloral-Camphor Salve Muslin*.—Sevi benzoinati, 90—95; adipis benzoinati, 5—0; chloral-camphor, 5—0. 4. *Iodoform Salve Muslin*.—Sevi benzoinati, 90—95; adipis benzoinati, 15—10; iodoformii, 5—0. 5. *White Precipitate Salve Muslin* (10 per cent.).—Sevi benzoinati, 70—75; adipis benzoinati, 15—10; hydrarg. ammoniati, 10—10; olei amygdal. dulc., 5—5. 6. *Mercurial Salve Muslin* (40 per cent.).—Hydrarg. depurati, 37; ung. hydrarg. (Ph. G.), 10; sevi benzoinati, 40; adipis benzoinati, 13. 7. *Zinc Salve Muslin*.—Sevi benzoinati, 70—75; adipis benzoinati, 15—10; zinci oxidi, 10—10; olei amygdal. dulc., 5—5. 8. *Iodide of Lead Plaster Muslin*.—Empl. adhesiv. (P. Germ.), 85; terebinthinæ venetæ, 5; plumbi iodidi, 5. 9. *Mercurial Salve Muslin*.—Hydrarg. vivi, 10; terebinthinæ, 10; emplast. plumbi simplicis, 25; resinæ pini, 5.

When a thicker layer of the application is desirable, two folds of the salve-muslin can be placed on the part. It is well, too, to cover the salve-muslin with a piece of ordinary muslin, which prevents the fatty matter from coming through and soiling the clothes; and the salve-muslin is so dispensed in Hamburg, and can be had there from Mielck, apothecary, Damnthorstrasse. Unna specially mentions the following as suitably treated by the prepared muslins.

1. *Epididymitis Gonorrhœica, treated by Iodide of Lead Plaster Muslin*.—The treatment of this by Frick's sticking-plaster has fallen into discredit, because much pain and sometimes severe consequences, as gangrene, have been caused by it. This may be avoided, Unna says, by taking care not to fold the scrotum when putting the strip of plaster, above the enlarged testicle, round the neck of the scrotum. But the pliant muslin-plaster suggested by him is much more efficacious, and can be resorted to as soon as the more acute stage has passed. Only, when the swelling is extremely tender to touch, he allows twenty-four hours' rest in bed, combined with ice-cold lead-lotion, and then applies his plaster-muslin and permits the patient to move about. The earlier absorption is secured by this method, the more certainly will subsequent induration of the epididymis be avoided.

2. *Treatment of Pigment Spots by Mercurial Salve Muslin*.—We can remove freckles or liver-spots, when not too deeply embedded in the cutis, by such means as cause an abnormally rapid desquamation of the cuticle. Of the weaker and more slowly acting means, borax holds the chief place, since this salt, when long continued as an application, is least apt to cause eczema; of the stronger and more rapid in action, corrosive sublimate. By means of the salve-muslin, the desired result may be obtained more certainly and quickly than by the weak lotions; if not so rapidly, yet more comfortably, than by the use of corrosive sublimate, whether as lotion or collodion. The fatty material of the skin having been first removed by sponging with eau de Cologne at bedtime, pieces of the white precipitate or mercurial salve-muslin, cut to suit the sizes of the pigment

spots, are closely applied to them, and, if necessary, are fixed by collodion, and washed off in the morning. During the day the spots may be concealed by a bismuth cosmetic:—R Bismuthi oxychlorati, kaolini, ana 5.0; vaselini, 20.0. When the maculae are covered with this, a subsequent washing will not entirely remove it. Under the combined use of these mercurial and bismuth preparations, the pigment-spots disappear very quickly without much redness or desquamation.

3. *Treatment of Eczema Narium by means of Zinc Muslin.*—By this, eczema of the nostrils, a frequent accompaniment of chronic nasal catarrh, can be well treated. A piece of India-rubber tubing, half an inch long, and one-sixth to one-fourth of an inch in diameter, in proportion to the size of the nostril, is cut for each. Each is then enveloped in zinc muslin, sufficient being rolled round the tube to make it fit the nostril; the part which projects beyond the tube is cut into several strips, and these are folded over the margins of the nostrils to retain it in position. If the upper lip be hairless, the eczema found there is to be covered also with a piece of zinc muslin. If a moustache be worn, there is usually eczema with little infiltration, but with some syccosis. In such a case, pencilling with a weak tar and sulphur ointment, 1 per cent., between the hairs, will be found the best treatment. This method obviates the injurious effects of the secretions of the nose on the eczematous surface without interfering with respiration. The strips which fasten in the tubes are, in adults, only necessary at night. During the day the covered India-rubber tube can be retained *in situ* by a little care, and is scarcely noticeable. It is self-evident that one must do all one can to cure the nasal catarrh, not always an easy task. Unna finds, on the one hand, the genuine Hager's pills, on the other, frequent inhalations of tar, aid him most. At night, oleum rusci can be painted thickly over the zinc muslin which covers the upper lip.

WOOD ON THE THERAPEUTIC ACTION OF DIGITALIS ON THE HEART.

PROFESSOR H. C. WOOD, on introducing this subject to the notice of the Philadelphia Medical Society (*Phil. Med. Times*, July 2), having referred to the current opinions in regard to the action of digitalis upon the nervous apparatus of the heart, alleged it to have a peculiar effect on the heart-muscle. This influence, which has been shown both by experiment and clinical observation, renders digitalis particularly serviceable in the condition of heart-disease in which the increased work required of the heart is greater than the increase of the power—without regard to the particular valve that may be affected. It improves the nutrition of the heart by regulating its contractions and lengthening the diastolic interval, doing away with the rapid imperfect contractions which interfere with the blood-supply of the cardiac muscle. In such cases the nutrition of the heart suffers, because it is necessary to have lateral distention of the aorta in order to fill the arteries in the muscular tissue. A little digitalis steadies the heart, and therefore improves its condition and retards degeneration. In chronic valve-trouble of the heart, digitalis is serviceable, and sometimes must be given in large doses. A half-drachm dose of the tincture apparently saved from impending death two patients with advanced heart-

trouble, who afterwards recovered enough to attend to their business. It enables the heart to gather up its strength, and keeps it going until the last. By the surgeon, digitalis is often used improperly. Thus, it is not rarely given in aneurism, where the great danger is from increased lateral pressure, not want of forward pressure. In acute diseases, with failing heart, digitalis may be employed. Such a condition may occur in asthenic or in the advanced stages of sthenic pneumonia. In the early stage of sthenic pneumonia, it is improper to give it. When the lung is consolidated throughout a large extent, the heart is overworked; by-and-by it begins to fail, the pulse getting rapid and feeble; and now digitalis comes into play. It will save life in such a condition, when without it the patient must die. In a case of alcoholic pneumonia, ten minims of the tincture given every two hours, day and night, reduced the pulse from 150 or 160 to 60.

* Two points in conclusion—(1) in regard to the cumulative action, and (2) in regard to the cause of the slow action of digitalis. The remedy acts slowly in producing its full effect, and its effects are very permanent when they do appear. Digitalis acts slowly and cumulatively, not only because of its special influence upon the heart, but because it only comes very slowly into contact with the heart-structure, since it osmoses slowly into and out from the body. The practical point is this: watch the kidneys when giving large doses of digitalis; if water be not passed freely, then cumulative action will be apt to occur. . . . The longer the digitalis is in acting, the more likely it is to have a lasting effect. After abdominal tapping, the digitalis often shows itself in reducing the heart's action. Either it has been lying in the intestines unabsorbed, or in the cellular tissue; probably all the fluids are saturated with the drug. Digitalis is a very useful remedy in cases of syncope and collapse. Formerly, alcohol alone was used. One of the advances of modern therapeutics has been to teach the danger of giving large doses of alcohol in cases of surgical shock. Belladonna and digitalis are proper remedies, given by hypodermic injection. The pulse begins to fill up in twenty minutes or half an hour. No irritation is produced at the point of puncture. Throw in twenty minims at once, and expect to find the result in half an hour. He did not wish his remarks to be understood as declaring that digitalis was entirely without danger, but he had used it in hundreds of cases, and had seen men apparently dying revive under its effects. It is important to stop it as soon as evidence appears in the pulse that it is beginning to be absorbed. Used in this way, he did not believe that there would ever be any serious cases of poisoning with it.

After a short discussion, Professor Wood said that he would touch upon two or three practical points that had been raised. First, as to the choice of preparation: the infusion seemed to be generally preferred; but probably the only reason for this being considered more efficacious was that it was given in relatively larger doses than the tincture. He believed that either preparation obtained from an unknown druggist is not infrequently unreliable. He believed that gastric disturbance (of which, however, he has seen very few cases) is less likely to occur with the tincture than with the infusion. He had not made much use of digitalin, which in fact is not the alkaloid, but merely a purified extract: it is uncertain in its composition and in its results; and as the dose of digitalis is so small, there is no need for resorting to so uncertain a substance. Dr. Wood

wished to be distinctly understood as discountenancing the employment of large doses until the smaller had failed. In conclusion, he made a few remarks on the experimental investigation of the subject.

'The action of digitalis on the frog's heart is that it is rarely arrested in diastole, more frequently in systole. As regards the question of its effect upon the pneumogastric nerve, in some cases the effect is to destroy life in this manner. In such cases, we can restore the action of the heart by cutting the pneumogastric nerve. As a rule, however, the effect is greater upon the heart than it is upon the nerve, and the animal dies of cardiac spasm. It has the same effect upon the pulse of mammals; its full effect produces a weak pulse, sometimes dicrotic. This he had seen beautifully illustrated in man. It means that there are two antagonistic effects upon the heart—upon the heart-muscle, and on the brake action. This is undoubtedly the explanation of the dicrotic pulse and of the double wave written upon the manometer. Later, the arterial pressure is found to be falling. Looking at the heart, the dilatation becomes less, the diastole becomes imperfect, only a small amount of blood now enters its cavities, on account of the cramp of the muscular tissue, just as in the tetanic spasm of the muscles in strychnia-poisoning; and then come cramp of the muscles of respiration and death. The pulse becomes frequent in digitalis-poisoning, because the heart is so constricted that the blood is dammed back and cannot get into the aorta.'

GARDINER ON FORMULÆ FOR DISGUISSING DISAGREEABLE FLAVOURS.

[Continued from p. 408.]

22. *Compound Elixir of Corydalis*.—Fluid extract of corydalis, fluid extract of stillingia, fluid extract of prickly ash bark, 8 fl. oz. 256 min. each; iodide of potassium, 1 oz. 32 grs.; glycerine, 3 fl. oz.; compound elixir of orange, q. s. Make 8 pints.

23. *Elixir of Gentian and Chloride of Iron*.—Citrosodic solution of chloride of iron, 5 fl. oz. 160 min.; fluid extract of gentian, 8 fl. oz., 256 min.; oil of orange, 16 min.; oil of cassia, oil of anise, oil of coriander, 8 min. each; oil of nutmeg, 4 min.; extract vanilla, 2 fl. oz.; tincture of orange-peel, 2 fl. oz.; alcohol, 22 fl. oz.; syrup, 24 fl. oz.; glycerine, 4 fl. oz.; water, q. s. Make 8 pints.

24. *Elixir of Guarana*.—Fluid extract of guarana, 21 fl. oz., 160 min.; carbonate of magnesia, 3 dr.; curaçoa flavour, 16 fl. oz.; tincture of orange-peel, 7 fl. oz.; tincture of lemon-peel, 1 fl. oz.; extract of vanilla, 2 fl. oz.; alcohol, 7 fl. oz.; syrup, 32 fl. oz.; glycerine, 10 fl. oz.; water, q. s. Make 8 pints and filter.

25. *Elixir of Hops*.—Fluid extract of hops, 21 fl. oz. 160 min.; tincture of orange, curaçoa flavour, 6 fl. oz. each; syrup, 32 fl. oz.; alcohol, 24 fl. oz.; phosphate of lime, q. s.; glycerine, 8 fl. oz.; water, q. s. Make 8 pints.

26. *Laxative Elixir*.—Fluid extract of rhubarb, 4 fl. oz.; fluid extract of senna, deodorised, 2 fl. oz. 320 min.; fluid extract of dandelion, 4 fl. oz.; fluid extract of buckthorn-bark, 2 fl. oz.; fluid extract of ginger, 2 fl. dr.; glycerine, 1 pint; phosphate of soda, 5 oz. 160 grs.; Rochelle salts, 4 oz.; bicarbonate of soda, 2 oz. 160 grs.; tincture of lemon-peel, 3½ fl. oz.; syrup, 28½ fl. oz.; alcohol, 19 fl. oz.; tincture of orange-peel, 3½ fl. oz.; water, q. s. Make 8 pints.

27. *Compound Elixir of Orange*.—Tincture of orange peel, 5 fl. oz.; curaçoa flavour, 5 fl. oz.; orange flower-water, 3 fl. oz.; syrup, one pint, 10 fl. oz.; alcohol, 1 pint, 10 fl. oz.; phosphate of lime, q. s.; water, q. s. Make 8 pints.

28. *Elixir of Pepsine (or Wine of Pepsine)*.—Solution of saccharated pepsine, 29 oz. 123 min.; hydrochloric acid, C. P., 30 min.; glycerine, 5½ fl. oz.; tincture of orange, 31l. oz.; phosphate of lime, q. s.; orange flower-water, 3 fl. oz.; syrup, 20 fl. oz.; alcohol, 17 fl. oz.; sherry wine, q. s. Make 8 pints.

29. *Elixir of Pepsine and Bismuth*.—*a*, Boudault's pepsine, 5 oz. 160 grs.; water, 1 pint; alcohol, 3 fl. oz. mix; filter; *b*, tincture of orange peel, 5½ fl. oz.; tincture of lemon, 2½ fl. oz.; phosphate of lime, q. s.; water, 15 fl. oz., mix and filter; *c*, ammon. citrate of bismuth, 2 oz. 64 grs.; aq., 4 fl. oz., dissolve; alcohol, 8 fl. oz.; syrup, 24 fl. oz.; water, q. s. Make 8 pints. Add *b* to *a*, then *c*, and finally the other ingredients.

30. *Elixir of Pepsine, Bismuth, and Calisaya*.—Sulphate of quinia, 130 grs.; sulphate of cinchonia, 65 grs.; alcohol, 1 fl. oz.; boiling water, 1 fl. oz.; citric acid, 10 grs.; solution of citrate of ammonia, 1 fl. oz.; elixir pepsin and bismuth, q. s. Make 8 pints.

31. *Elixir of Pepsine, Bismuth, and Strychnia*.—Citrate of strychnia, 8½ grs.; alcohol, water, ½ fl. oz. each; elixir of pepsine and bismuth, q. s. Make 8 pints.

32. *Elixir of Pepsine, Bismuth, Strychnia, and Iron*.—Pyrophosphate of iron, 2 oz. 64 grs.; boiling water, 4 fl. oz.; dissolve and add: elixir of pepsine, bismuth, and strychnia, 8 pints.

33. *Elixir of Phosphate of Iron, Quinia, and Strychnia*.—Ferric phosphate (citro-ammon.), 2 ozs., 64 grs.; sulphate of quinia, 1 oz. 32 grs.; citrate of strychnia, 8½ grs.; tincture of orange-peel, 1½ fl. oz.; extract of vanilla, 1½ fl. oz.; citric acid, 20 grs.; phosphate of lime, q. s.; oil of orange, 15 min.; oil of cassia, oil of anise, oil of coriander, 8 min. each; oil of nutmeg, 4 min.; syrup, 38 fl. oz.; glycerine, 12 fl. oz.; alcohol, 28 fl. oz.; water, q. s. Make 8 pints.

34. *Elixir of Pyrophosphate of Iron, Quinia, and Strychnia*.—Substitute the same quantity of pyrophosphate of iron for the ferric phosphate, and proceed as for elixir of phosphate of iron, quinia, and strychnia.

35. *Elixir of Pyrophosphate of Iron*.—Pyrophosphate of iron, 2 oz. 64 grs.; boiling water, 6 fl. oz.; tincture of orange-peel, 3½ fl. oz.; orange flower-water, 3½ fl. oz.; syrup, 24 fl. oz.; alcohol, 26 fl. oz.; phosphate of lime, q. s.; water, q. s. Make 8 pints.

36. *Elixir of Rhubarb and Magnesia*.—Fluid extract of rhubarb, 12 fl. oz. 384 min.; fluid extract of liquorice, 2 fl. oz.; oil of spearmint, 25 min.; oil of cassia, 5 min.; tincture of orange-peel, 1½ fl. oz.; phosphate of lime, q. s.; carbonate of magnesia, 8 oz. 356 grs.; acetic acid, 37 fl. oz.; water, q. s. Make 8 pints. Convert the carbonate of magnesia into acetate with the acetic acid and sufficient water, and combine with the other ingredients.

37. *Compound Elixir of Taxacum*.—Fluid extract of dandelion, 3 fl. oz., 96 min.; fluid extract of wild cherry, 6 fl. oz., 192 min.; fluid extract of liquorice, 384 min.; fluid extract of gentian, 384 min.; oil of orange, 12 min.; oil of cassia, oil of anise, oil of coriander, 6 min. each; oil of nutmeg, oil of rose, 3 min. each; tincture of cardamom, 10 fl. dr.; phosphate of lime, q. s.; alcohol, 24 fl. oz.; syrup, 31 fl. oz.; water, q. s. Make 8 pints.

38. *Elixir of Valerianate of Ammonia*.—Valeria-

nate of ammonia, 4 oz. 128 grs.; tincture of orange-peel, 8 fl. oz.; curaçoa flavour, 4 fl. oz.; phosphate of lime, q. s.; orange flower-water, 4 fl. oz.; syrup, 36 fl. oz.; alcohol, 21 fl. oz.; water, q. s. Make 8 pints. Add sufficient aqua ammonia to exactly neutralise.

39. *Elixir of Valerianate of Ammonia and Quinia*.—Sulphate of quinia, 2 oz. 64 grs.; alcohol, 8 fl. oz.; citric acid, 75 grs.; boiling water, 3 fl. oz.; dissolve and add to: valerianate of ammonia, 176 grs.; elixir of valerianate of ammonia, 8 pints. Add sufficient aqua ammonia to exactly neutralise.

40. *Wine of Beef*.—Extract of beef, 4½ oz.; boiling water, enough to dissolve the beef, and filter; curaçoa flavour, tincture of orange-peel, 4 fl. oz. each; syrup, 1 pint 10 oz.; alcohol, 21 fl. oz.; sherry wine, q. s. Make 8 pints.

41. *Wine of Beef and Iron*.—Extract of beef, 4½ oz.; pyrophosphate of iron, 2 oz. 64 grs.; boiling water enough to dissolve: curaçoa flavour, 4 fl. oz.; tincture of orange-peel, 4 fl. oz.; syrup, 1 pint 10 oz.; alcohol, 21 fl. oz.; solution of citrate ammonia, 4 fl. oz.; sherry wine q. s. Make 8 pints.

42. *Wine of Beef, Iron, and Calisaya*.—Sulphate of quinia, 130 grs.; sulphate of cinchonia, 65 grs.; citric acid, 20 grs.; alcohol, 2 fl. oz.; boiling water, 2 fl. oz. Dissolve, and add sufficient wine of beef and iron to make 8 pints.

43. *Wine of Calisaya*.—Tincture of orange-peel, 2 fl. oz.; oil of orange, 15 min.; oil of cassia, oil of anise, oil of coriander, 8 min. each; oil of nutmeg, oil of rose, 4 min. each; extract of vanilla, 2 fl. oz.; syrup, 3 pints 2 oz.; citric acid, 20 grs.; sulphate of quinia, 130 grs.; sulphate of cinchonia, 65 grs.; phosphate of lime, q. s.; alcohol, 14 fl. oz.; sherry wine, 3 pints; water, q. s. ft. Make 8 pints.

44. *Bitter Wine of Iron*.—Citrate of iron and quinia (soluble), 2 oz. 64 grs.; curaçoa flavour, 8 fl. oz.; tincture of orange-peel, 8 fl. oz.; phosphate of lime, q. s.; syrup, 16 fl. oz.; alcohol, 8 fl. oz.; sherry wine, 4 pints; water, q. s. Make 8 pints.

45. *Sweet Wine of Iron*.—Ammonio-citrate of iron, 2 oz. 64 grs.; water, enough for solution; tincture of orange-peel, 8 fl. oz.; curaçoa flavour, 8 fl. oz.; syrup, 24 fl. oz.; alcohol, 8 fl. oz.; sherry wine, q. s. Make 8 pints.

THERAPEUTICS AND PHARMACOLOGY.

RECENT PAPERS.

1. TIBBITTS, E. T.—The Modern Theory of the Action of Digitalis. (*Lancet*, Oct. 1881, p. 586.)

2. WOLFENDEN.—Agaric in Night-Sweating. (*Med. Times and Gaz.*, Oct. 1881, p. 442.)

3. JENNINGS, C. E.—Curare in Hydrophobia. (*Lancet*, Oct. 1881, p. 624.)

4. SMITH, R. SHINGLETON.—Codeia in Diabetes. (*Brit. Med. Jour.*, Sept. 1881, p. 474.)

5. GOWERS.—Psoriasis arising from Borax. (*Lancet*, Sept. 1881, p. 546.)

6. DALE, J. M.—Heat in Treating Sunstroke. (*Lancet*, August 1881, p. 246.)

7. HARRIS.—The Benzoates in Dysentery. (*India Med. Gaz.*, August 1.)

8. CLEVELAND.—Oleate of Mercury. (*Druggist*, August 1881.)

9. MACDONALD.—Carbolic Acid in Whooping-cough. (*Edin. Med. Jour.*, 1881, p. 1094.)

10. BERSFORD.—Tincture of Magnolia Acuminata in Gastric Intermittent Fever. (*Southern Pract.*, May.)

11. DOUGLASS and SQUIBB.—On Quebracho. (*New York Med. Gaz.*, August 6.)

12. LOAMIS.—The Treatment of Pneumonia during the First Stage. (*New York Med. Record*.)

13. GOVAERTS.—The Black Elder. (*Druggist*, August 1881.)

14. PONTE.—Hypodermic Injections of Cold Water. (*Gaceta Medica de Venezuela*.)

15. DE URY.—Borate of Chinoidine as a Febrifuge. (*Gaz. Med. di Roma*.)

16. PROTA-GIURLEO.—Ditana Digitifolia as a Galactagogue. (*Il Farm. Ital.*, 1881.)

17. TENEDAT.—Phosphate of Bismuth. (*Bull. Génér. de Thérap.*, 1881.)

18. HEUBNER.—Modern Remedies for Pertussis. (*Wiener Med. Wochn.*, No. 32, 1881.)

19. RIEHL.—The Use of Iodoform in Lupus Vulgaris. (*Ibid.*, No. 19, 1881.)

1. *Tibbits on the Modern Theory of the Action of Digitalis*.—Dr. Edward T. Tibbits, in the *Lancet*, Oct. 1881, p. 586, writes to prove that, in spite of numerous modern authors, the action of digitalis as a depressant, or sedative (if the latter term be preferred), antiquated though it be, is the only one which can be decidedly maintained. The paper is suggestive, and worthy of careful study.

2. *Wolfenden on Agaricus in Night-Sweating*.—Mr. R. N. Wolfenden, in the *Med. Times and Gaz.*, Oct. 1881, p. 442, draws attention to the value of agaricus, given in scruple or half-drachm doses at bed time. An experience of forty cases has proved its powers to be unailing, and, as there is no danger from an overdose, it is a much more valuable agent than atropia, its curative powers being equal to that drug.

3. *Jennings on Curare in Hydrophobia*.—Mr. C. E. Jennings publishes in the *Lancet*, Oct. 1881, p. 264, a case which occurred in the London Hospital under the care of Dr. Langdon Down, in which curare was the only agent that gave any comfort to the patient. Three or four injections, each of a tenth of a grain, were given every twenty minutes with marked benefit; then two injections of a quarter of a grain of morphia were substituted, unknown to the patient, the effect being such as to make the man decline any more injections. With persuasion, however, a fifth of a grain of curare was now given, the result being again good, so much so, that he would from time to time hold out his leg for the curare to be inserted. The patient died sixteen hours after admission. [Curare has been extensively employed in the treatment of hydrophobia, and other cases of cure are reported, besides the one by Dr. Offenbourg, to which Mr. Jennings refers. In the *Med. Times and Gaz.*, Dec. 1877, Dr. Collins relates two other cases which recovered. Dr. Hanlen, *Lancet*, July 1878, p. 104, reports another case of cure from the same drug. Mr. Jennings remarks that cases of hydrophobia have proved uniformly fatal. In sections 525 and 526 of the *Medical Digest*, several remedies are accredited with cures; and, in a paper in the *Lancet*, by Mr. Moore, Dec. 1879, p. 865, detailing a case of cure by morphia hypodermically, and other remedies, it is stated that out of 150 collected cases, 22 recovered, about 10 of which there could be no doubt as to their genuine character. The reporter would wish to see morphia injected hypodermically over the supra-laryngeal nerve, as described in this number of the RECORD, to counteract the throat spasms.—*Rep.*]

4. *Smith on Codeia in Diabetes*.—Dr. R. Shingleton Smith (*Brit. Med. Jour.*, Sept. 1881, p. 474) brought before the members of the British Medical

Association the value claimed for codeia in the treatment of diabetes. Dr. Smith considers that alkalies and all other treatments, even dieting, are inferior to codeia, which may, in this disease, be considered almost as a specific, and should be the first remedy tried, being given in fairly large doses, until some physiological effect is produced. Some of those who joined in the discussion stated that they had given as much as ten to fifteen grains, thrice a day, with benefit, and others, that even one grain a day had caused unpleasant symptoms. In regard to its action, it was suggested that its power was exerted on the medulla oblongata, whence the original mischief, that produces diabetes, is believed to spring. This speculation is favoured by the fact that codeia is valuable in cough. Dr. Lauder Brunton advises the drug to be given in doses of a quarter to half a grain three times a day.

5. *Gowers on Psoriasis arising from Borax.*—In the *Lancet*, Sept. 1881, p. 546, Dr. W. R. Gowers relates a case of a man who had taken, for the cure of epilepsy, borax for nearly two years. Psoriasis followed, but was quickly cured by adding five minims of arsenical solution to each dose. Two other cases are referred to, in which a similar result occurred during the use of the drug.

6. *Dale on Heat in Treating Sunstroke.*—Dr. J. M. Dale, in the *Lancet*, August 1881, p. 246, refers to a method of treatment in cases of sunstroke, popular in some districts, viz., applying heat by means of hot bricks, wrapped in flannel, to the body, with hot flannels applied to the head, and suggests that this treatment should be more carefully studied, seeing that it was a common thing for our forefathers to wrap many patients, *in extremis*, in the skins of recently slain animals. [In an article in the *Med. Times and Gaz.*, Sept. 1876, p. 368, Professor Wood of Philadelphia states that, in all the cases of collapse from sunstroke that had come under his observation, immediate relief had followed the use of the hot bath, combined with moderate doses of whiskey and ammonia. Mr. D. H. Cullimore has published a very instructive notice on the hot-bath treatment of one variety of sunstroke met with in acclimatized district civilians—engineers, police, and medical officers—men whose duties necessarily expose them to great and prolonged exposure to heat, considerable fatigue, and a good deal of discomfort while sojourning in tents or in travellers' bungalows. They are probably tainted with malaria, and may have occasionally suffered from attacks of congestion of the liver and dysentery. While on a tour of this kind, the patient-elect begins to feel irritable, tired, and out of sorts; he tries to look bright and pull himself together. After a day or two, the heat of skin increases, and he ceases to perspire; there are headache and intolerance of light; and, when considerably done up, he returns home, and, after a sleepless night, he sends for the doctor. His face is now flushed, and there is intolerance both of light and of sound; perhaps delirious and muscular twitches; the skin is dry and burning; the temperature 106 deg. to 107 deg., with exacerbations if complicated with fever. In such cases the warm bath gives most marked relief, combined with aconite and cold applications to the head.—*Ref.*]

RICHARD NEALE, M.D.

7. *Harris on the Benzoates in Dysentery.*—Mr. Geo. Harris, officiating civil surgeon, of Burrissaul, brings to the notice of the editor of the *India Med. Gaz.*, Aug. 1st, 1881, and that of the profession generally in India, the great value in the treatment of

dysentery, both the acute and subacute varieties, of the benzoates of ammonia and soda, in doses of 10 to 20 grains, twice, three times, or more frequently, daily. He generally uses 15 grains three or four times daily, and prefers the salt of ammonia. He finds that it rapidly causes an active secretion of bile from the liver and cessation of the acute symptoms. He has used it a good deal in the gaol and in private practice, and has had very good reason to be satisfied with the results. The experiments being at present only tentative, the exact dose and time of administration cannot be exactly fixed. Further experiment and practice will decide if larger doses may be better. In most cases patients tolerate the drug readily, and under its use the stools rapidly become fecal. He suggests that the excess of bile poured out into the intestine acts beneficially on the congested or even ulcerated large intestine.

8. *Clevenger on Oleate of Mercury.*—Dr. S. V. Clevenger (*Druggist*, August 1881) comes, after extended experimentation, to the following conclusions respecting this substance. 1. In the course of time, at least, the oleate breaks up into metallic mercury in an extreme state of subdivision. 2. These minute metallic globules are suspended in the oleic acid, and a steady, though slow, shower of the globules falls from the liquid. 3. At all times, different heights of the oil yield different percentages of mercury, the top affording the least, and the bottom the greatest quantity. 4. The freshly prepared oil will be most uniform; an oleate a few months old containing less mercury, which accounts for the variable results obtained by physicians in its use. 5. The term 'oleate of mercury' is most probably a misnomer. 6. The simplest method of making the 'oleate' would be by rapid and prolonged shaking of the metal with the required amount of oleic acid; and old precipitated oleate should be thoroughly reshaken before being dispensed.

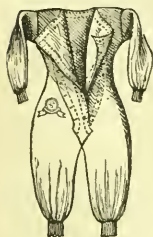
9. *MacDonald on Carbolic Acid in Whooping-Cough.*—Dr. MacDonald (*Edinburgh Med. Jour.*, 1881, p. 1094) says that on extended trial he finds carbolic acid, in doses of one-fourth of a minim to a child of six months, one-half minim for a year, and one minim for two years and upwards, to be the best remedy for whooping-cough. The whoop goes; the vomiting ceases; the paroxysms are modified in intensity and frequency. This result Dr. MacDonald believes to arise from an action similar to that of creasote on the motor fibres of the vagus to the stomach, and from a lowering of vitality of the specific germ of whooping-cough disease. This points to the antiseptic treatment of the zymotic diseases generally.

10. *Beresford on Tincture of Magnolia Acuminata in Gastric Intermittent Fever.*—Dr. A. E. Beresford (*Southern Practitioner*, May) recommends tincture of the fresh bark of the root of magnolia acuminata in gastric intermittent. The treatment is commenced with a preparatory dose of podophyllin and leptandrin; and the tincture of magnolia is given in tablespoonful doses every three or four hours until the fever is arrested; and then in wineglassful doses every morning, to prevent recurrence. He believes that the magnolia acts as a sedative, antiperiodic, and tonic.

11. *Douglass and Squibb on Quebracho.*—At a meeting of the New York County Medical Society (*New York Med. Gazette*, August 6), Dr. Douglass exhibited a fluid extract, which had been carefully prepared by Dr. Squibb, and related the history of

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Bougies:—	Hernia Instruments	Suspension Apparatus
Bulbous	India-Rubber Goods:—	Woollen Shirts
Cylindrical	Beds	Skin Grafters
Œsophagus	Cushions	Spirometers
Rectum	Ice-Bags	Speculums
Breast Bottles	Pillows	Tooth Forceps
Breast Glasses	Sheets	Tooth Instruments:—
Breast Pumps	Urinals	Excavating
Carbolic Sprays	Inhalers	Extracting
Catheters:—	Lancets:—	Scaling
Bulbous	Bleeding	Stopping
Cylindrical	Vaccine	Trocars:—
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Crutches	Mouth Instruments	Ovariectomy
Cupping Instruments	Necrosis Instruments	Trusses
Dissection Instruments	Nose Instruments	Urinals
Drainage Tubes	Obstetric Instruments	Urinary Test Cases
Drainage Trocars	Ovariectomy Instruments	Urinary Test Stands
Ear Instruments	Orthopædic Instruments	Urinometers
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the cases in which it had been used. Of these, eleven were cases of spasmodic asthma, in nine of which the dyspnoea was notably relieved. All the cases showed that it was an agent which would modify the violence of respiratory movements, and was therefore useful in dyspnoea from any cause, as it had no unfavourable after-effects. If its active principle could be separated, it could be more efficiently used hypodermically. Dr. Squibb said that he did not consider quercacho a desirable addition to the materia medica; that it showed itself to be only a duplicate of other remedies better known. It was important to know if in the cases relieved other agents had not been also given, and, since it had been shown that the drug caused nausea and vomiting, how far this effect tended to relieve the dyspnoea, irrespectively of the special action of the drug.

12. *Loomis on the Treatment of Pneumonia during the First Stage.*—Prof. Alfred L. Loomis, in *New York Med. Record*, says, in regard to treatment:—What measures shall we employ to overcome or mitigate the impression made upon the nervous system by the morbid agent which is operating to produce the pneumonia? The experience of the past eighteen months leads me to state with some positiveness that in opium we have such an agent. My rule for the past year has been to bring my patient under the full influence of the drug at the onset of a pneumonia, and to hold him in a condition of comparative comfort until the pneumonic infiltration is completed (usually for the first four days of the disease). After this period, the greatest care must be exercised in its use, for now a new danger threatens—namely, paralysis of the bronchi, and consequent accumulation of secretion in the bronchial tubes—which will greatly increase the difficulties of respiration; but during the developing period of the disease, when the pneumonic blow is first struck, morphia, given hypodermically, seems to lessen the nervous shock and to diminish or prevent the effect of the pneumonic poison on the nervous system, until the first violence of the poison has been spent in completing the pulmonary infiltration. The use of opium in this way does not interfere with the usual antipyretic treatment of the disease, nor does a demand for alcoholic stimulants contra-indicate its use. The results which have followed this plan of treatment in the limited number of cases in which I have been able to fairly test it (in patients that have been directly under my personal management) have convinced me that it greatly diminishes the chances of heart-failure; and cases which from their age and attending circumstances seemed hopeless have recovered. The great relief and comfort which the use of opium in this way gives to the pneumonic sufferer during the first four days of his struggles are sufficient to commend it, especially in those cases where an extensive pleuritic inflammation accompanies the pneumonic development.

13. *Govaerts on the Black Elder.*—Govaerts (*Druggist*, August 1881) has recently discussed this almost forgotten drug. Since the origin of the historical epoch, physicians have ascribed to this drug properties which they have utilised in various diseases. The alleged properties have been largely dependent on its laxative or purgative action. These properties are found to exist in a greater extent in the bark than in the leaves; these latter lose about 80 per cent. of their weight by desiccation. Their nauseous and fetid odour disappears, through desiccation, as time advances, to give place to a purely her-

baceous odour. In relation to pharmaceutical preparations and posology, Govaerts arrives at the following conclusions. 1. The succus from the leaves is the best form for the administration of the drug, and it can be administered thus: Juice of the leaves of the black elder, two ounces; spirit of peppermint, five drops. 2. The juice of the root produces excellent effects, and may be given in doses of from half an ounce to an ounce, when the preparation is properly made. 3. The wine of the fresh root of the drug (30 parts to 100) is the most agreeable preparation, and is also the most stable. In doses of from half an ounce to an ounce it produces abundant alvine evacuations, accompanied, however, by nausea and vomiting. 4. Accelerated temperature exercises the same action on the leaves and the bark, and on their preparations; it completely destroys their therapeutic qualities.

14. *Ponte on Hypodermic Injection of Cold Water.*—In the *Gaceta Medica* of Venezuela, Dr. Ponte relates his experiences in several instances in which he employed water hypodermically for the relief of pain. The first case was that of a boy who was suffering from an attack of intercostal neuralgia, so severe as almost to endanger the life of the patient by interference with respiration. Not having any morphia with him, the author determined to work upon the imagination of the sufferer by injecting pure cold water over the situation of the pain, a procedure which, much to his astonishment, was followed by permanent relief. Impressed with this fact, Dr. Ponte resolved upon further experiments. The next case was one of toothache. In order to eliminate the imaginative element, he informed the patient of the treatment to be employed, for the execution of which permission was rather reluctantly given. An injection practised upon the side of the face nearest to the pain was followed by considerable burning sensation, but in less than a minute the odontalgia had subsided. Animated with these results, he employed cold-water injections in a variety of different pains, always with happy issue, even in cases where morphia had been the drug previously administered. Another patient had been suffering nine years from intense gastro-intestinal neuralgia, which baffled all remedies. The pain came on after meals, and its violence was such as to cause her frequently to faint. When first seen by the writer, she was utterly prostrated. Two injections relieved the pain, and subsequent tonic treatment restored her to perfect health. Several hundred cases have been treated in the manner described, with good results. [Duhorn, Dumontpallier, and other French physicians, have recorded numerous experiences of a like character. Dumontpallier found, however, that simple acupuncture produced like results, and attributes the relief of pain to peripheral compression and reflex action.—*Rep.*]

15. *Ury on Borate of Chinoidine as a Febrifuge.*—Considering the current opinions in regard to the causes of paludal fevers and the antiseptic properties of boracic acid, Dr. De Ury (*Gaz. Med. di Roma*) thinks that the combination of this acid with the amorphous alkaloid cinchonidine may prove a valuable acquisition in the treatment of malarial fevers, in the place of the much more expensive sulphate of quinine, the price of the former remedy being less than one-twelfth that of the latter. A gramme of the borate of cinchonidine is equivalent in its effects to 66 centigrammes of the sulphate of quinine.

16. *Prota-Giurleo on Ditana Di trifolia as a Galac-*
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tagogue.—With this plant, a native of Brazil, Protacurleo (*R. Farm. Ital.*, 1881) experimented upon nursing women. It was found that, under its administration, either in the form of an aqueous infusion or an ethereo-alcoholic tincture, milk could be made to flow from the mammae upon the slightest pressure. The drug has a selective influence over the mammary glands. It promotes, increases, accelerates, and even brings back the secretion of milk. The author has prepared a liqueur named the 'Galattofero', which is readily administered to mothers and nurses. Of this tincture one to three tablespoonfuls are added to half a litre (about 0.8 pint) of water, or, better, to infusion of chamomile, and thus taken in divided doses during the day. The remedy is recommended in cases of mothers and nurses whose milk is scanty, and nurses in maternity hospitals, who are compelled to suckle several children.

17. *Tenedat on Phosphate of Bismuth*.—Tenedat (*Bull. Gén. de Thé.*, 1881), by reason of the extreme variability in composition of the commercial nitrate of bismuth, proposes to substitute the phosphate of bismuth for the subnitrate. The dose of the phosphate is less (1 to 2 grammes), and it may be employed under the same circumstances. To prepare it, phosphate of sodium is dissolved in distilled water, and this is raised to the boiling point in a glass or porcelain vessel; to the boiling solution acid nitrate of bismuth is added, a little at a time; the reaction begins immediately, and after a protracted boiling the phosphate of bismuth is precipitated in the form of a white dense granular powder, which readily separates from the acid liquid. It is washed upon a filter until the filtered fluid exhibits a neutral reaction, and is then dried.

18. *Heubner on Modern Remedies for Pertussis*.—Professor Heubner of Leipzig (*Wiener Med. Woch.*, No. 32, 1881), gives a statistical table of the effects of some modern remedies for whooping-cough. In one column he gives an analysis of the effects of the bromide of potassium, quinine, chloral-hydrate, salicylic acid, and belladonna. The comparative value of potassium bromide is shown by a comparison of twenty-three uncomplicated cases. In not one of these was the duration of the disease shortened, but, on the other hand, in nine of the cases the intensity of the paroxysms as well as their frequency was diminished. In respect to quinine (administered internally in small doses, not exceeding $4\frac{1}{2}$ grains per day), Heubner observed three times, in eleven uncomplicated cases, an abbreviation of the duration of the disease, while the paroxysms also in five cases underwent a favourable resolution. Chloral-hydrate was given internally in two cases, in divided doses; in all the rest by one enema daily, containing a larger quantity. A diminution in duration of the disease was observed only twice in ten cases, while resolution of the individual paroxysms took place six times, and even to a greater degree than under the treatment by quinine. Salicylic acid was given internally but once, being administered at other times by inhalation of a one-half to one-third per cent. solution three times daily, in the dose of thirty grammes, by means of Siegle's apparatus. In the seventeen cases thus treated, the effect upon the length of the disease was very unimportant, since only twice could a positive shortening be credited to it. The alleviation of the paroxysms, on the other hand, was very gratifying; for, in ten of the seventeen cases, the diminution of the severity or of the frequency of the seizures was very striking. At one

time the intensity, at another the frequency, was favourably reduced, without any perceptible change in the other factors of the disease. Belladonna was for the most part administered in the form of the powdered extract, and in a few cases in the form of the powdered leaves, the daily dose, being 2.5 and 5 grains; and in eight uncomplicated cases, besides the immediate checking of the paroxysms, the duration of the disease itself was cut short by the remedy, the attacks becoming also milder. It thus appears that, for the alleviation of the paroxysms, the inhalation of salicylic acid and chloral-hydrate promise the most positive results; while, for the abbreviation of the entire disease, the greatest benefit is to be expected from belladonna and quinine. Still these results are to be considered only relative.

19. *Riehl on the Use of Iodoform in Lupus Vulgaris*. This writer believes (*Wien. Med. Woch.*, No. 19, 1881) that he has discovered in iodoform a remedy for lupus analogous to mercury and iodine in syphilis, that is, that iodoform causes absorption and transformation of the lupous tissue. In the case of ulcerating lupus tubercles, he places on the part a layer of iodoform 1 to 3 millimetres thick: simple pencilling with glycerine of iodoform is of no use. For deeper infiltrations he first, with soap, washes off all fat from the surface, and then pencils the part with a solution of caustic potash (one to two by weight of water) till the epidermis is thoroughly removed, after which he removes the superfluous caustic, dries the part, and places on it a layer of iodoform 1 to 2 millimetres thick. This he covers with cotton-wool and plaster, and leaves for three to eight days; when, in an ordinary case, he expects the lupous tissue to have disappeared, leaving slight pits. There is no pain, except when the caustic is applied, nor is there any suppuration. The process may have to be repeated twice or thrice in severe cases. JAMES ANDERSON, M.D.

MEDICINE.

RECENT PAPERS.

1. KERSCHENSTEINER, KOHNHORN, and BUTRY.—The Etiology of Pneumonia. (*Deutsch. Med. Woch.*, No. 32, 1881.)
2. DAVIDSON.—Nerve-Stretching in Locomotor Ataxy. (*Liverpool Med. Chir. Jour.*, July 1881.)
3. LUCQUOY and HASOT.—The Delirium of Typhoid Fever, especially in Convalescence. (*Arch. Gén. de Méd.*, July 1881.)
4. NIXON.—Functional Murmur in the Pulmonary Artery. (*Dub. Jour. of Med. Sciences.*)
5. SOUTHEY.—Capillary Drainage of Pleuritic Effusions. (*Lancet*, July 1881.)
6. POPE.—Recovery after Twelve to Fifteen Minutes' Immersion. (*Lancet*, October 1881.)
7. SAUNDBY, R.—The Doctrine of Saturnine Gout. (*Lancet*, Sept. 1881, pp. 385, 414.)
8. POLLOCK.—Pulsatile Aorta. (*Med. Times and Gaz.*, Oct. 1881, p. 442.)
9. BRUNTON, T. LAUDER.—On Jaundice. (*Brit. Med. Jour.*, Sept. 1881, p. 477.)

1. *Kerschesteiner, Kohnhorn, and Butry on the Etiology of Pneumonia*.—In the *Deutsch. Med. Woch.*, No. 32, 1881, is an account of three epidemics bearing on the etiology of this disease. That reported by Dr. Kerschesteiner occurred in the Amberg Prison. Of 1,200 prisoners, 161, that is, 13.4 per cent., had pneumonia, and 46, or 28.5 per cent., died.

Cold, or the nature of their occupation, was certainly not the cause of their illness, nor was there anything in the nature of the food or water used, to explain it. Among the authorities and servants there was no case of illness. No single one of the sleeping-rooms was free from sickness, and the number of cases was quite independent of the relative space occupied, or position of the water-closets. Those who had been the shortest time in captivity were most liable to the disease, and it was ascertained that lung-disease was in the way of appearing epidemically in the institution. Dr. Kerschenteiner, therefore, believes himself justified in the conclusion that the cause of the disease is a sort of malaria, or miasma, inherent in the place, and non-transportable. The second epidemic, reported by Dr. Könhorn, occurred in the Wesel Barracks. Dr. Könhorn, by careful observation, excluded such causes as cold, sudden change of temperature, wind, ozone, subsoil-water, and occupation. The disease seemed endemic in certain barracks, and seemed also closely associated with intermittent fever. The third epidemic, reported by Dr. Butry, occurred in the village of Becherbach during March and April of this year. Of 460 inhabitants, 20 were attacked, of whom 9 died, 8 of these being advanced in years. The disease was of asthenic type, and attacked mostly single families, or near neighbours.

JAMES ANDERSON, M.D.

2. *Davidson on Nerve-Stretching in Locomotor Ataxy.*—Dr. Davidson (*Liverpool Medico-Chir. Jour.*, July 1881) publishes two cases of locomotor ataxy in which the sciatic nerves were stretched. In the first three weeks after the operation he regained co-ordinating power and patellar reflex: he had no subsequent return of the lightning pains or gastric attacks, and could walk a quarter of a mile without a stick. The other case was a very severe one, and the improvement was not so marked, the ataxic and gastric crises were relieved, the lightning-pains became rare and slight, and his general health had improved.

ROBERT SAUNDY, M.D.

3. *Bucquoy and Hanot on the Delirium of Typhoid Fever, especially in Convalescence.*—According to Bucquoy and Hanot (*Arch. Gén. de Méd.*, July, 1881, p. 24) the delirium in typhoid fever may be described clinically as occurring at the outset of the malady, during its course or during convalescence; This delirium of convalescence is apyretic, and consequently analogous to the delirium of mania, whilst that of the outset, of course, is always accompanied by fever. In the course of the disease, delirium may be a continuation of the initial delirium, or it may commence during the full force of the fever. It is then of better augury than when it dates from the outset of the disease. The delirium of convalescence may also be continuous with delirium of the febrile period, or may arise during convalescence. The first appears to be in relation with a profound cerebral change; it borrows its value, therefore, from the condition contemporaneous with its explosion. The second, peculiar to convalescence, is characterised by intellectual disorder rather than by disturbance of the affective faculties. The ideas are inco-ordinal, analogous to the dreams of a patient in a state of somnolence, which is preferable to the delirium of inanition; thus this cause has been invoked to explain delirium at a period when typhoid patients were submitted to rigorous starvation. The pathogeny of this delirium is, however, other than this, and the very variability of its forms is a proof of it; only in this diversity of forms it always preserves a remark-

able character—systematisation. Most frequently ambitious delirium is observed, differing from the delirium of general paralytics precisely in the probability of the ideas, and their true sequence, that is to say, in systematisation. Finally, the delirium, like other symptoms, presents various characters in different epidemics. This frequency, or rarity of delirium, is observed in analysing the various epidemics; such, for example, as that in 1853, in the cases observed in the practice of Louis, at the Hôtel-Dieu, and in more recent ones which occurred at the Hôpital Cochin.

4. *Nixon on Functional Murmur in the Pulmonary Artery.*—Among the different kinds of cardiac murmurs, those originating in the pulmonary vessels have by common consent been considered of rare occurrence and secondary importance. Dr. Nixon, however, in the *Dubl. Jour. of the Med. Sciences*, has recorded a series of observations, tending to show that a functional murmur occurs quite frequently in the pulmonary artery. The observations of the author certainly deserve consideration, if only to call the attention of others to his rather novel statement. It would appear that this murmur may occur in many febrile affections. Thus Dr. Nixon has frequently heard it in acute articular rheumatism, in typhoid fever, and in bronchitis. But he has likewise observed it in nervous diseases, and in conditions of general debility. Finally, he states that it may be met with even in certain affections, which, in themselves trivial, nevertheless give rise to impaired nutrition. He believes it to be caused by a diminution of tension in the artery itself. This would permit a twist or constriction to be formed at its root during the ventricular systole. While, therefore, this pulmonary murmur, admitting the comparative frequency of its occurrence, cannot in any sense be regarded as pathognomonic of a special disease, its presence may, nevertheless, serve to draw attention to the existence of a perhaps otherwise unsuspected malnutrition. For this reason, it is well that we should be on the look out for its presence. But the *New York Med. Record* suggests that, before we can class it with symptoms better known and more completely understood, we need corroborative evidence from others as to the frequency of its occurrence and the fact of its symptomatic significance.

5. *Southey on Capillary Drainage of Pleuritic Effusions.*—In the *Lancet*, July 1881, p. 174, Dr. Southey reports two cases in which this mode of treatment was followed by the happiest results. The following remarks conclude the paper. 'Pleurisy with simple serous effusion does not often need operative interference, but the indications in the cases that require tapping are generally precise enough. The temperature remains high, and all the vital powers steadily decline; the appetite is nil; the bowels are irregular; the urine diminishes as the pressure upon the lung increases; the oppression of the circulation through the sound lung becomes greater; coughing brings on dangerous dyspnoea, and the patient may die, as they sometimes do, quite suddenly from fatal syncope. Tapping, in some way or other, having become imperative for the patient's safety, the next question is how this can be done with the smallest risk, least pain, and best results. Does aspiration or gradual drainage offer the best results? Is the one method attended with more risks than the other? Experience can alone decide this. Both methods offer little or no risk of the entrance of air. Aspiration, has in several cases in which I have tried it, been attended

by considerable pain; by serious fits of coughing during and towards the end of the operation; and by subsequent reaccumulation of the fluid, whether from fault of the method of proceeding, or of the patient, I cannot decide. Gradual drainage, however, appears to me a preferable mode of drawing off the effusion. It is little painful, easy to effect, and would, I am sure, be often found all-sufficient for complete cure of the case.' [Dr. Southey's original paper, read before the Clinical Society, in which he first brought the subject of capillary drainage in pleuritic effusions, before the notice of the profession, is to be found in the *Lancet*, February 1879, p. 159.—*Ref.*]

6. *Pope on a Case of Recovery after Twelve to Fifteen Minutes' Immersion*.—Mr. Charles Pope, in the *Lancet*, Oct. 1881, reports a case of a man who was entirely under water during the period mentioned. His head and chest being tightly jammed against a wall, prevented water from entering the lungs. [Well authenticated cases may be referred to, *vide Med. Digest*, Section 1620, of recovery after immersion of half an hour, an hour and a half, and two hours respectively.—*Ref.*]

7. *Saundby on the Doctrine of Saturnine Gout*.—In the *Med. Times and Gaz.*, Sept. 1881, pp. 385, 414, Dr. Robert Saundby brings forward twelve cases of lead-poisoning, associated with gout, that have been published by Drs. Garrod, Wilks, Begbie, and Murchison, to establish the relationship existing between the diseases. These twelve cases, with another one observed by Dr. Saundby himself, do not, when carefully examined, warrant, in Dr. Saundby's opinion, the acceptance of the usually received doctrine of saturnine gout.

8. *Pollock on Pulsatile Aorta*.—This case, under Dr. Pollock (*Med. Times and Gaz.*, Oct. 1881, p. 442), was that of a woman, aged 53, who had for five or six months experienced a 'curious throbbing sensation' in the abdomen, for many years past having suffered from dyspepsia, with pain and sickness after food. The sensation was most felt in the lumbar and inguinal regions on the right side. She was much relieved by lying down. Immediately over the aorta, in the middle line of the abdomen, a well-marked pulsation, synchronous with the heart's beat, was felt. It was not expansile like an aneurism. A hard prominence was felt coming forwards from the spine, distinctly behind the pulsation. The patient died three days after admission. The aorta was found healthy, but pushed forward and to the left by a new growth involving the bodies of all the lumbar vertebrae. [Epigastric and abdominal pulsations are not unfrequent, and are often very obscure as to their origin and as to the treatment needed. Dr. Murchison, in his Croonian lectures (*Lancet*, April 1874, p. 578), pointed out their frequent connection with functional derangements of the liver. A most valuable paper by Dr. Balfour, on aortic pulsations, was published in the *Edinburgh Med. Jour.*, Jan. 1876, p. 616. Bromide of potassium proved an efficient remedy when the cause was simply neurotic. In the *Med. Times*, Feb. 1845, Dr. Nottingham gives an able exposition of the semeiotic value of abdominal pulsations. *vide Ranking's Abstract*, Vol. i, 1845, pp. 44, 207; Vol. ii, 1847, p. 53.—*Ref.*]

9. *Brunton on Jaundice*.—Dr. Lauder Brunton (*Brit. Med. Jour.*, Sept. 1881, p. 477) opened, before the British Medical Association, at its annual meeting this year, a discussion upon jaundice, in which he insisted upon three points. 1. Whether there

were any hæmatogenous jaundice, or whether it was always hepatogenous. 2. The power of the liver to regulate its flow of blood, and thus to alter the flow of blood through all, or nearly all, the abdominal viscera. 3. The *modus operandi* of one or two remedies. Hepatogenous jaundice was first considered as being due either to increased pressure in the bile-capillaries, or to obstruction of the bile-ducts, or to lessened pressure of blood in the capillaries of the liver. Absorption of bile took place under such circumstances, with a rapidity of which few had any idea. Heidenhain found that, if a cannula were placed in the gall-bladder of a guinea-pig, and he tied the gall-duct, and then allowed the bile to flow freely away, secretion took place very rapidly. If, however, he increased the pressure to a very slight extent, the flow was arrested, and the moment would come when the secreted and reabsorbed bile would entirely balance one another; and that point was only equal to about eight inches of water—a very low pressure; if he increased the pressure, the water was absorbed almost as fast as he could pour it into the tube, and, if the water were coloured with indigo, the animal quickly became perfectly blue all over, life going on unimpaired. This was a case of lessened blood-pressure, and the question was, where did this lessening take place? in the portal vein, in the hepatic vein, or in the capillaries? This brought one to the question of the portal function of the liver; the liver had the power of regulating the flow of blood, not merely through itself, but through the rest of the abdominal viscera, as the stomach and intestines. An immense amount of blood flowed to the intestines. The blood rushed through the liver with a velocity almost incredible to one who had not seen it. A cannula was fixed in the portal vein of a fresh liver, and connected with a bottle full of blood. By raising the bottle, the pressure was increased at pleasure, and the blood rushed out of another cannula fixed in the hepatic vein, almost as rapidly as it would have done out of the bottle itself, had the cork been removed. In a short time the flow became less and less, until it nearly ceased, which showed, Dr. Brunton thought, that the liver had a power of regulating, to a great extent, the quantity of blood that passed through it. The liver has not only the power of thus regulating the flow of blood through itself, but also through other abdominal viscera. Once, when suffering from ague, just as the attack came on, Dr. Brunton had intense rectal pain, with hæmorrhoidal swellings. Quinine lessened both, and a warm bottle over the liver relieved the pain—facts that seemed to tell Dr. Brunton that the resistance was in the liver. The question of hæmatogenous jaundice, or whether it was possible for bile to be formed in the blood itself, was still left undecided; but the balance of evidence pointed to the fact that bile was only formed in the liver and thence absorbed into the blood. As to drugs, Carlsbad waters were very valuable, and the plan of sipping the waters, when invalids visited the Spas themselves, greatly influenced their action, as the act of swallowing probably removed the influence of the vagus upon the liver, thus allowing, to a certain extent, the removal of the jaundice. In catarrh of the gall-duct, ipecacuanha was found to be an efficient remedy. [Dr. Corrigan (*Med. Digest*, Sects. 975-3) asserted, in 1845, that ipecacuanha, in cases of jaundice due to grief and mental emotion, was the only and almost certain remedy for this usually most fatal form of jaundice. Dr. Cook, in the *Practitioner*, Aug. 1880, p. 107, reports several cases, not due to

mental emotion, in which ipecacuanha effected a rapid cure. Vide LONDON MEDICAL RECORD, Nov. 1880, p. 445.—*Rep.*] RICHARD NEALE, M.D.

SURGERY.

RECENT PAPERS.

1. FISHER.—Genu Valgum treated by Manipulation. (*Lancet*, Sept., p. 503.)

2. GAY, JOHN.—Hæmorrhoids or Piles. (*Lancet*, July-Sept. 1881, pp. 169, 367, 496, 538.)

3. WILLIAMS, W. R.—A Remarkable Case of Recto-Vaginal Fistula and Faecal Calculus. (*Lancet*, Oct. 1881, p. 588.)

4. STOCKER, J. R.—Dugas' Pathognomonic Sign of Dislocation of the Humerus. (*Lancet*, Oct., p. 608.)

5. WALKER, W.—Complete Severance of the Jejunum. (*Lancet*, Oct., p. 627.)

6. JUDSON, A. B.—Rupture of the Plantaris Muscle. (*New York Med. Journ.*, July 1881.)

7. ROLL.—Defer's Treatment of Simple Hydrocele. (*Bull. Génér. de Thérap.*, August 30.)

8. PLETZER.—Intermittent Dropsy of the Knee. (*Dent. Med. Woch.*, No. 37.)

9. JERSEY.—Rupture of the Internal Lateral Ligament of the Knee-joint. (*New York Med. Journ.*, June 1881.)

10. GIENEY.—Caries of the Ankle in Children. (*New York Med. Herald*.)

11. WEBB, HOLDEN.—On the Treatment of Spinal Curvature and Abscess by Inflation. (Reprint from *Australian Med. Journ.*, 1880.)

12. PEREZ, ORTEZ.—On the Radical Cure of Hernia by the Subcutaneous Injection of Alcohol. (*Gaz. des Hôp. Militaires*.)

1. *Fisher on Genu Valgum treated by Manipulation*.—In the *Lancet*, September 1881, p. 503, a case, under the care of Mr. Fisher, is reported, with accompanying plates, showing the condition of the patient before and subsequently to treatment, in which a marked case of genu valgum was perfectly cured, in a lad, aged 16, by the following mode. The limbs were put up in trough splints on December 11th, 1880, and the joints were daily manipulated. This manipulation consisted in fixing the femur, by holding the inner condyle with one hand, the leg being grasped round the malleoli with the other hand, extended, and then firmly pressed inwards. By these means the contraction of the external lateral ligament, the biceps tendon, and the fascia, were quickly overcome, and on January 26th (forty-six days from the commencement of the treatment) the ankles could be brought together. On March 16th, the boy could stand erect, with the legs extended in their normal relationship to the thighs. The joints were somewhat loose, owing to the internal lateral ligaments not having yet contracted; steel supports were therefore ordered, and the patient left the hospital. In this case, before treatment was begun, the patellæ were completely dislocated laterally, when the joints were flexed; this was probably due to adapted shortening of the great extensors of the legs, the points of origin and insertion of these muscles being unduly approximated on account of the extreme degree of deformity which was present. Another point deserving notice was, that in both legs,

the plane of the articular surface of the femur was unchanged, the elongation of the internal condyle, a condition lately much insisted upon as being the chief difficulty to be overcome in cases of severe genu valgum, not existing. Mr. Fisher, in the *Lancet*, January 1877, p. 84, gave a detailed description of this plan of treatment, which will in most cases avoid the necessity of any operative interference.

2. *Gay on Hæmorrhoids or Piles*.—Mr. John Gay, in the *Lancet*, July, Aug., and Sept. 1881, pp. 169, 367, 496, 538, enters very fully into the anatomy, physiology and treatment of piles. Mr. Gay states that hæmorrhoidal dilations, or piles, are not found to co-exist with like disturbances in any of the neighbouring or even associated organic venous plexuses. I have never seen a case in which varicose could be said to have been an etiological co-ordinate of piles, to whatever cause the latter may be traced, nor have I found any satisfactory evidence of the existence, with the worst forms of piles, of allied over-repletion of other vein-systems. I have seen the hæmorrhoidal and the vaginal veins very largely distended at the same time, through the pressure of large pelvic tumours or gravid uterus; but this result does not contravene the principles for which I am contending, that hæmorrhoidal veins may be, and usually are, exclusively dilated or varicose. Descriptive plates of the various forms of piles, as observed after injection and careful dissection, are given at pp. 169 and 367. Mr. Gay submits the following general proposition as the result of many years' careful study. 'As in the limbs so in the rectum, and, indeed, throughout the whole body, the vein-system is, as I have often said, dual, consisting of a deep axial, or, in relation to structures, a muscular set or system of veins, and another a collateral or compensatory system, which, in relation to structure, is dermoid or mucous. Veins of the first order contribute the channels which convey the main streams, whilst those of the latter convey the rills that feed them. The first are liable to very little variation in their respective courses, whilst the latter afford every variety in this respect, and have almost unlimited means of accommodation to contingencies, either by dilatation of their coats, of a thousandfold and more multiplication of their vessels if needed.' Mr. Gay compares the upper hæmorrhoidal veins and their allies, the uterine, vesicle, and prostatic, to the crural; the lower hæmorrhoidal and the vaginal to the saphenous, the one series being in direct communication with the common iliac, an axial or muscular vein, the latter diverging into the portal through the mesenteric, and through these and the hepatic veins into the cava. Another set of veins is thus brought into prominence, to which no other import is attached than that they belong to the compensatory or dermal, as homologous to the saphenous and the subcutaneous or mucous system generally. Mr. Gay thinks it is tolerably clear that the hepatic and portal veins form a portion of the compensatory series to the cava, and, therefore, are functionally allied to the superficial veins, typified by the saphenous. The bearing of these remarks upon piles is to prove that there are no anatomical grounds on which hepatic disease, or, indeed, disease of any organ, interposed between the rectum and the heart, may be said to be specially favourable to the production of rectal hæmorrhoids. Mr. Gay classes, at p. 497, hæmorrhoidal disorders into: 1. Anal or plexiform varicosity; 2. Hæmorrhoidal varix—sacular or erectile—the true pile; 3. Hæmorrhoidal varicosity, or the varicose hæmorrhoidal vein. The first of these

forms displays itself as a tense and well-defined welt, at the extreme verge of the anal aperture. It is usually associated with 'true piles'. The third variety occupies the larger hæmorrhoidal branches, and betrays itself in those large bloated veins which are often seen in hæmorrhoidal persons, running up the bowel and bearing a very forbidding aspect. On the subject of treatment, Mr. Gay has little new to advance, but he enters a protest against the habit of what is called 'bringing down the piles' by exciting exaggerated peristalsis, preliminary to operation, since, by such a procedure, the true condition of the diseased parts is obscured. The preliminary treatment should be confined to that which will place the patient in the best state of health of which his system is susceptible, and the parts in the utmost state of possible quiet, for purposes of operation, and for some few days after operative proceedings.

3. *Williams on a remarkable Case of Recto-Vesical Fistula and Fæcal Calculus in the Male.*—Mr. W. Roger Williams, in the *Lancet*, Oct. 1881, p. 588, gives the history of a man, aged 79, who, a year and a half before being seen, suffered from frequent and painful micturition. No stone was found on sounding, but a sensation of roughness was felt. A few days before his death it was supposed that he had passed urine *per anum*, but the fact was not positively confirmed. On examination, fifteen hours after death, the bladder *in situ* appeared small and projecting, but otherwise healthy. It felt firm, as if containing some not very hard substance. On section, this was found to consist of brownish-black material, of a doughy, and in parts, coriaceous consistence, made up of irregular-shaped pellets about the size of large peas, like 'mincemeat'. It weighed an ounce and a quarter, and had an urino-fæcal odour. At its base, the bladder opened into the rectum by an aperture that admitted a crowquill. In this case, there was no history of early symptoms. The only really valuable sign that could have led to a correct diagnosis was the admixture of urine with the feces—a fact that attracted neither the attention of the patient nor of his attendants.

4. *Stocker on Dugas' Pathognomonic Sign of Dislocation of the Humerus.*—Mr. J. R. Stocker illustrates the value of this sign in an obscure case that fell under his observation (*Lancet*, Oct. 1881, p. 608). At first the case seemed to be one of fracture at the anatomical neck of the humerus, but the hand of the injured arm being brought across the chest to the opposite shoulder, showed that the elbow could not be approximated to the chest. This sign depends upon the fact, that it is impossible for a straight line (the humerus) to touch the convexity of a curved line (the thorax) at more points than one at the same time.

5. *Walker on complete Severance of the Jejunum.*—Mr. W. Walker, in the *Lancet*, Oct. 1881, p. 627, reports an interesting case where death occurred in a lad, aged 19, twenty-seven hours and a half after a fall. Examination on admission detected no grave injury, and although importunate to get up and walk, the patient was confined to bed, and placed on milk and broth diet. Twenty-six hours after the accident he was apparently going on satisfactorily; but, half an hour after his evening meal of bread and milk, he developed fatal symptoms of peritonitis. The *post mortem* examination revealed a complete severance of the jejunum, as it lay over the vertebral column. The rupture formed a regular circle, with the edges inverted and frayed, as if the separation had been produced by a blunt pair of scissors. The ends were

in good apposition. The case is in many respects unique. [A very singular case, where the jejunum was ruptured in two places by a ploughman stepping into a deep hole, is recorded in the *LONDON MEDICAL RECORD*, 1878, p. 341. In the *Brit. Med. Jour.*, Oct. 1879, p. 535, a somewhat similar case is reported.]

RICHARD NEALE, M.D.

6. *Judson on Rupture of the Plantaris Muscle.*—In *The New York Med. Jour. and Obstet. Rev.*, July 1881, Dr. A. B. Judson gives three cases in which he diagnosed this injury. He remarks that it is seldom found described in systematic works on surgery, although its occurrence is probably not very uncommon. Its most remarkable feature is the trivial nature, or almost entire absence, of an immediate cause. Persons are attacked while quietly walking in the street, stopping suddenly under the impression that they have been shot in the leg. Apart from ecchymosis, which is met with in but a limited number of cases, the only objective signs are œdema and deep-seated induration, and these are by no means constant. If there be an obvious gap in the muscles, with an adjacent muscular tumour, the case is to be considered one of rupture of muscles, the term *coup de fouet* being conveniently used to indicate those cases in which the exact lesion remains undetermined. The diagnosis depends on (1) the suddenness of the attack; (2) the insignificance of the apparent cause; (3) the location of the trouble; (4) the pain, which is absent or slight when the part is at rest, and produced or aggravated by those motions of the limbs, active or passive, which disturb the muscles of the calf; and (5) the great disproportion between the objective and subjective symptoms. Recovery is always protracted, and is probably not much facilitated by treatment; which, however, should not be neglected, for the prognosis is sometimes unfavourable, especially when the affected limb is the seat of deep varicose veins, or shows traces of former phlebitis. Local and general remedies should be directed toward the relief of pain. Repair of the injured structures should be promoted by preventing motion or disturbance of the part affected. The condition which seems best adapted to secure this object is that of enforced fixation, with the knee moderately flexed and the ankle moderately extended. As recovery progresses, locomotion will be facilitated by a high-heeled shoe, which prevents the foot from being unduly flexed on the leg. Cases of this injury present opportunities for the exercise of judgment, in the decision of the question of abandoning further rest and resorting to motion and exercise.

7. *Roll on Defer's Treatment of Simple Hydrocele.*—Dr. Roll *Thèse de Paris; Bull. Gén. de Thérap.*, Aug. 30) favours this treatment. The hydrocele is punctured with cannula and trocar as usual, and evacuated; through the cannula is introduced a sound, on the end of which is fused a little piece of nitrate of silver; the interior of the tunica vaginalis is then rapidly touched at different points with this caustic, when the sound, and after it the cannula, are withdrawn. The results of this mode of treatment are said to be excellent. Notwithstanding the occurrence of a sharp inflammation lasting five or six days, a cure is generally obtained, not by adhesion of the two surfaces of the tunica vaginalis, but by a simple vital modification of that membrane. The return of the effusion is rare. Defer's operation is thus described as perfectly safe, thoroughly efficacious, and easily performed.

8. *Pletzer on Intermittent Dropsy of the Knee.*

—In the *Deutsche Med. Woch.*, No. 37, Dr. Pletzer describes the case of a woman, aged 40, suffering from intermittent dropsy of the knee, which made its appearance at irregular intervals, and defied all treatment. She had been under the author's observation for twelve years. Only the first time the swelling was attended with fever. After that, there was no recurrence of fever. Its approach was preceded for a few days by uncomfortable sensations. During the first four years, the swelling of the right knee set in every three months, independently of the menstrual period or of pregnancy. There was no hereditary disposition to rheumatism or gout, no previous intermittent fever, nor any traumatic cause. After using the baths at Neundorf, the patient was seized with attacks, which were more frequent, but of shorter duration, the intervals being five days, and the pain and swelling lasting six days. Four years ago, the patient went to Meinberg, and was treated with carbonic acid in every form in which it could be given. The dropsy disappeared, but the general condition of the patient became worse, and all the symptoms of Basedow's (Graves's) disease appeared. When, four months afterwards, the dropsy set in once more, with its accustomed interval of eleven days, her condition changed for the better, and the symptoms of Basedow's disease at once disappeared. The only remedy which had a good effect was Fowler's solution, which shortened the attacks. Pregnancy, in 1879, put an end to the dropsy; but, eight weeks after delivery, the symptoms of Basedow's disease returned, together with the first catamenial discharge, which was rather copious. The patient was then sent into the country, and the last news received about her indicated that the dropsy had again set in, but that the general condition was much improved. The author regards this disease as a vaso-motor neurosis, which supposition is rather confirmed by the appearance of Basedow's disease.

9. *Jersey on Rupture of the Internal Lateral Ligament of the Knee-Joint.*—Dr. Charles A. Jersey (*New York Med. Jour.*, June 1881) has been recently studying rupture of the internal lateral ligament of the knee-joint; and, from the study of two cases in the living subject and five attempts at rupture of the internal lateral ligament on the cadaver, comes to the following conclusions. First, many cases of so-called ruptures of the internal lateral ligament of the knee-joint are in reality cases of fracture of the internal tuberosity of the condyle. Second, many of the more severe sprains are fractures of the tuberosity. Third, the absence of bony crepitus is no certain sign of the non-existence of fracture at this point. Fourth, this diagnosis rests upon the extreme lateral motion, the severity of the pain on manipulation, the localised pain always found at a certain point, and the length of time required for complete recovery.

10. *Gibney on the Management of Orthopedic Cases.*—Dr. Virgil P. Gibney, assistant-surgeon to the Hospital for the Ruptured and Crippled, at New York, read a paper upon this subject before the Kentucky State Medical Society, Lexington, on May 20, 1880. The paper before us is reprinted from the *New York Medical Herald*. Orthopedic cases are essentially chronic, are always troublesome to deal with, and generally present individual peculiarities which must be managed in accordance with their individual requirements. Pott's disease, in which the upper dorsal or cervical region is involved, will require some such support as a jury-mast; but the management of an expert is necessary, to adapt

the apparatus satisfactorily. The author urges that whatever apparatus is used, it will not cure the patient without the careful attention of the surgeon. In dealing with abscesses in these cases, the advice of Billroth should generally be followed, and the abscess allowed to take its own course. But when some vital organ is pressed upon by the collection of pus, the knife should be used freely. [The aspirator is not referred to.] In lateral curvature, the early use of apparatus, when at all practicable, is especially desirable. It will prevent, if not cure. If the vertebrae be rotated, there is no apparatus that will rotate in the opposite direction. There are many cases in which an apparatus that exerts long continued pressure on muscles, does actual harm. Gymnastics are a *sine quâ non*. Disease of the hip-joint always begins as a central disease of bone. Of 560 cases, 353, or 63 per cent., began before the fifth year; 290, or more than 50 per cent., began between the third and fifth years; only 39 began after the tenth year. Some periartritic affections are often mistaken for the genuine disease. Cases of real hip-joint disease never recover with perfect joints. The treatment should be especially directed to the general health, whatever may be the surgeon's theory with regard to the pathology. Extension is beneficial, and some cases do well with a raised sole on the sound foot. [This was first employed by H. O. Thomas, of Liverpool.] Abscesses should not be too readily opened. Excision of the diseased portion of bone should only be employed as a *dernier resort*. Club-foot, if congenital, and treated from birth, can be dealt with by bandaging to a simple splint, by which means talipes varus can be reduced to equinus, and the tendo Achillis subsequently divided. Acquired club-foot, usually the result of paralysis, often requires tenotomy, and careful management in the after-treatment. Electricity is useless.

11. *Webb on the Treatment of Spinal Curvature and Chronic Abscess.*—(*Australian Med. Jour.*, Jan. 1880.) In this pamphlet, Sayre's plan of treatment by plaster-of-Paris jacket and suspension is extolled. The author considers that daily suspension alone will cure cases in the early stages, but that, if the disease be far advanced, suspension, with or without the jacket, causes abscess. In advanced cases, the jacket is to be used alone. Fourteen cases were treated by daily suspension, some with and others without a jacket; of these, nine recovered, three died, and two remained under treatment. In those that died suspension was supposed to be employed injudiciously. A simple form of suspension was used daily for as long a time as the patient could conveniently bear. To counteract the very unsatisfactory and ordinarily fatal termination of large chronic abscess, the septic cavities were inflated with carbolic air. The results of inflation were satisfactory to the operator. E. NOBLE SMITH.

PATHOLOGY.

RECENT PAPERS.

1. DUBOUE, PASTEUR, and GALTIER.—On Hydrophobia. (*Le Progrès Méd.*, 1881, No. 38.)
2. FOOT, A. W.—Cirrhosis of the Lung. (*Path. Soc. of Dub.*, February 1881.)
3. CHANTEMESE.—Hypertrophic Cirrhosis with Jaundice. (*Le Progrès Méd.*, 1881, No. 38.)
4. KEY, A., and BRUZELIUS, R.—Thrombosis of the Portal Vein. (*Hygia*, 1880, and *Nord. Med. Arkiv*, Band xlii.)

5. KEY and WISING.—Primary Cancer of the Bile-Ducts. (*Ibid.*)

6. MARTIN.—Visceral Lesions as a Sequel to Obliterative Endocarditis. (*Rev. de Méd.*, May 1881.)

7. GREENFIELD.—On Anthrax. (*The Veterinarian*, October 1881.)

8. KRAUNHALS.—Fungoid Vegetation in the Animal Organism. (*St. Petersb. Med. Woch.*, Feb. 21, 1881.)

9. POLAILLON.—Congenital Chancere of a Portion of the Diaphragm. (*L'Union Méd.*, July 14.)

10. JARISCH.—The Coincidence of Diseases of the Skin, and of the Grey Matter of the Spinal Cord. (*Vierteiljahrsh. für Derm. und Syph.*, 1880, p. 195.)

11. PENZOLDT.—Thrombosis of the Carotid Artery. (*Deutsche Archiv für Klin. Med.*, Band xxviii.)

12. KUMMEL.—Glioma of the Pons Varolii and Medulla Oblongata. (*Zeitsch. für Klin. Med.*, Band ii.)

13. ZUNKE.—Function of the Anterior Gray Column of the Spinal Cord. (*Zeitschr. für Klin. Med.*, Band ii.)

1. *Duboué, Pasteur, and Galtier on Hydrophobia.*—In a leading article, *Le Progrès Méd.* (No. 38, 1881), refers to recent observations and writings on hydrophobia. M. Duboué, of Pau, published last year a pamphlet entitled *The Pathological Physiology and the Rational Treatment of Hydrophobia*, in which he maintained that 'the producing agent of hydrophobia is not absorbed, but is propagated insensibly along the nerve-fibres which have been attacked by the virus; that the nerve-fibres affected are probably only the sensory fibres; and that the virus passes very slowly upwards from the lesion to the medulla oblongata, but spreads centrifugally very quickly, the symptoms commencing when the virus reaches the medulla.' He describes microscopical changes in the nerve-cells and fibres, consisting of opacity and granular degeneration, which he regards as the primary lesions. This theory has lately acquired importance, as M. Pasteur, in a recent communication to the Academy of Sciences, has expressed the opinion that the medulla is the principal seat of the reception of the virus. M. Pasteur has found that the cerebral substance and the cerebro-spinal fluid contain the virus, and may be used for inoculation, and that the most certain results can be obtained by trephining a dog's skull, and inoculating directly on the surface of the brain, the cerebral substance from a dog which had suffered from hydrophobia; a dog so inoculated shows the first symptoms in one or two weeks, and is dead in less than three weeks. M. Galtier of Lyons is seeking for some means to attenuate the virus, in the hope of succeeding in discovering a means of 'vaccinating' hydrophobia. He has found that whenever the virus was injected into the jugular vein it was not followed by the disease, while dogs so inoculated remained proof against further attempts to impart the malady.

2. *Foot on Cirrhosis of the Lung.*—Dr. A. Wynne Foot (Path. Soc. of Dublin, February 5, 1881) showed a specimen of cirrhosis of the left lung taken from a policeman who had been on duty seven days before his death. He had been in the band. When he came to Dr. Foot, he had hectic, night-sweats, dyspnoea, cough, copious viscid yellow sputa, no hæmoptysis, and the upper part of the left lung was immobile; dull and crackling sounds were heard over it. He died from profuse hæmoptysis. The left lung was reduced to two-thirds its size, condensed and indurated, and adherent to the costal pleura. The lung-structure was iron grey, the pleura was very thick and cartilaginous, sending greyish bands into the lung-tissue, and the bronchi were dilated. There was tubercle in both lungs, and there were two cavities in the apex of the right lung.

3. *Chantemesse on Hypertrophic Cirrhosis with Jaundice.*—M. A. Chantemesse (*Le Progrès Méd.*, 1881, No. 38) reports a case of hypertrophic cirrhosis with jaundice, as described by Hanot, and defends it against those German authors who have denied its right to be considered a pathological entity. In this case the patient, a man aged 57, had jaundice for five years. He had never suffered from malaria, gout, rheumatism, syphilis, or alcoholism. The liver was enlarged, extending four finger-breadths below the costal border. The spleen was very large. The urine contained bile, but no albumen or sugar. His feet and ankles were cedematous. Later on the oedema increased, the abdomen became swollen, the skin covered with petechiae, with friction and *râles* in the thorax, and, finally, coma and death. At the necropsy, the liver was found smaller than it had been, but weighed 1,800 grammes (6½ lbs.); portions of it were in a state of acute yellow atrophy; there was much increase of fibrous tissue, which, under the microscope, was seen to penetrate the lobules, and contained an abundant network of biliary canaliculi. There was no ascites present, but the peritoneum was studded with tubercle.

R. SAUNDREY, M.D.

4. *Key and Bruzelius on a Case of Thrombosis of the Portal Vein.*—Professor Axel Key and Dr. R. Bruzelius describe, in *Hygiea* for 1880 (*Nord. Medicin. Arkiv*, Band xiii, Häft 2), the case of a woman, aged 47, who was admitted to hospital with considerable ascites and oedema of the lower limbs, extending up as far as the chest. She was greatly emaciated, but was not jaundiced. She gave contradictory accounts of her illness. One day in the previous month, according to her husband's statement, she was seized with severe pain in the abdomen, which lasted two days; within two or three days afterwards, her abdomen swelled considerably; but the swelling of the legs appeared later. As the liver was not diminished, and no nodules could be detected in the abdomen, as the urine was free from albumen, and as no disease was detected in the heart or lungs, the formation of a thrombus in the portal vein was diagnosed, but its cause remained doubtful. At the necropsy, the ductus choledochus, from the liver to its entrance into the duodenum, was seen to be greatly dilated, and to be bent in the form of the letter S. It was about 0.4 or 0.45 inch in circumference; its wall was thickened, the surrounding connective tissue was indurated, the mucous membrane was smoother than usual, but the rugæ were preserved, and there was no trace of ulceration. The duct contained a saffron-coloured mass. The dilatation ended abruptly at the entrance of the duct into the duodenum; here the duct was unchanged and quite permeable. The dilatation was continued into the hepatic ducts and their branches; even the cystic duct was dilated, but it only contained some thin brownish yellow bile; no gall-stones could be found either in it or in the gall-bladder, which was unaltered. Around the vena portæ, at the commencement of its hepatic branches and around the junctions with it of its tributary veins, was found a dirty turbid grey mass of pus with pieces of broken-up connective tissue; the purulent change was greatest at the commencement of the portal vein, on a level with the most dilated part of the ductus choledochus. Here it involved the wall of the bile-duct, which in one place was so much eroded, that only the mucous membrane was found intact. The same was the case with a portion of the duct near its division into the two hepatic

ducts. Surrounded by the broken-down mass lay the portal vein, so greatly contracted as to measure little more than 7 millimètres (one-tenth of an inch) in circumference. Its wall was thickened; the lining membrane was speckled of a reddish grey colour, with brownish or dark grey firmly adherent distinctly raised deposits. The splenic vein was dilated and its wall thickened; the surrounding tissue was indurated; the lining membrane was free from deposits, but was discoloured, and had not its usual lustre. The mesenteric veins and the coronary veins of the stomach were also dilated. The liver was of the usual size, somewhat soft; the spleen and kidneys were without any change worthy of note; the lungs presented hypostatic congestion and œdema. In the peritoneum were nine litres (nearly 16 pints) of fluid, containing fibrinous flakes in the posterior parts; there were fusiform deposits on the peritoneum at the left of the sigmoid flexure and over some old false membranes on the left side of the true pelvis; in other parts the peritoneum was smooth, but somewhat thickened, and showed in several places small organised excrescences of connective tissue. Professor Key explains the pathological changes by supposing that a gall-stone, which was discharged before death, was firmly impacted during life in the duct just before its entrance into the duodenum, and thus caused an impediment to the discharge of bile and dilatation of the ductus choledochus. In consequence, a compression-thrombus of the portal vein was produced, which caused effusion into the abdomen and chronic peritonitis, with dilatation of the roots of the vein; the thrombus subsequently melted down, the vein contracted, and the surrounding inflammation went on to suppuration. The absence of icterus, in spite of the hindrance to the exit of the bile, was remarkable.

5. *Key and Wising on Primary Cancer of the Bile-Ducts*.—The following case is reported by Professor Axel Key and Dr. Wising in *Hygien* for 1880 (*Nord. Med. Arkiv*, Band xiii, Häft 2). A peasant, aged 35, who had from childhood had feeble health, on February 1, 1880, had dyspeptic symptoms, and on April 1 was attacked with icterus. During April and May, he was treated in hospital for catarrh of the stomach and duodenum, and catarrhal icterus. He was again admitted on October 2. The liver, which when he was first in hospital was enlarged, was now perhaps somewhat larger. The urine was deeply coloured with bile-pigment; the fœces were of a blackish colour. There was a remarkable tendency to hæmorrhage, especially under the skin. He had fever in the evening. There was no reason to suspect the presence of a tumour, and nothing indicated cancer; the diagnosis therefore was uncertain. At the necropsy, the liver was found to be somewhat enlarged and of firm consistence; its parenchyma showed a very marked green colour. On section, an abundance of clear greenish black fluid escaped from the bile-ducts; these had within the liver a diameter of 5 to 10 millimètres (.075 to .15 inch) and near their exit had a lumen of 5 millimètres. The dilatation of the bile-ducts ceased close to the porta: here both hepatic ducts and the common duct had greatly thickened walls, and their lumen was much reduced; the duct was, however, permeable by a large probe, and, on section, was seen to have a lumen of about 5 millimètres. The greatest extent of the thickening was 18 millimètres; the wall here was firm and hard, of an uniform yellow-grey colour, with somewhat distinct yellow streaks and clots. In the thickened part, the different coats

of the wall of the bile-duct could not be separated; the mucous membrane was a little changed on the surface, and ulcerated in some parts; it nowhere presented any villous excrescences. The ductus communis choledochus and the gall-bladder were collapsed, but unaltered in structure. The lungs presented hypostatic congestion and œdema; under the skin, among the trunks, and in the intestinal mucous membrane were numerous hæmorrhages. Microscopic examination showed that the thickening of the walls of the bile-duct was dependent on a canceroid growth, consisting of spores filled with epithelial cells, of which some were cylinder epithelium, others cubic or polygonal epithelium. In several places, these cells had undergone fatty degeneration, and the scanty stroma of connective tissue was in parts loaded with glistening fat-globules. The degeneration was altogether limited to the wall itself, and had not invaded the surrounding vessels. Dr. Key remarks that this was the first case in which he has met with primary cancer in the biliary passages. It was remarkable that the retention of bile and distension of the bile-ducts were so thoroughly marked during life, although at the *post mortem* examination the lumen did not appear to be perfectly obliterated. Apparently, in consequence of a greater amount of blood and fluid, the swelling was greater during life than it appeared after death. A. HENRY, M.D.

6. *Martin on Visceral Lesions as a Sequel to Obliterative Endarteritis*.—Martin (*Rev. de Méd.*, May 1881), following up a previous paper, of which an abstract lately appeared in these pages, describes a series of changes in various viscera following progressive obliterative endarteritis. He deals firstly with renal cirrhosis, and, in briefly sketching the morbid anatomy of this condition, lays special stress on the vascular changes. When referring to the cardiac sequelæ of granular kidney, he speaks of the arterio-capillary fibrosis of Gull and Sutton, but points out that Debove and Letulle have gone further, and demonstrated a fibrous change in the heart, not following, but accompanying the renal lesion, both being effects of a general condition—a fibrous diathesis. This fibrous transformation occurs chiefly in the left ventricle. Martin has found that this change is always associated with obliterative endarteritis of cardiac vessels, which is most common and extensive in the left ventricle. In the walls of the right ventricle very few vessels are affected, and only patches of fibrous matter exist there. The lesion there is what he calls dystrophic sclerosis. In senile kidneys, a similar endarteritis causes sclerosis of the organs themselves—a change in old age only second in frequency to atheroma. The connection between cardiac lesions and tabes dorsalis was first observed by Berger and Rosenbach, who found the spinal lesion in association with aortic insufficiency. Grasset attributed the aortic disease to reflex action, from the severe pains suffered by the patients. Letulle has studied some cases, and thinks that chronic arteritis is the cause of both cardiac and spinal lesions in this association. Martin has worked out such a case, and has found that the spinal lesion is caused by chronic endarteritis of the vessels supplying the posterior root-zones, all the other meningeal vessels being healthy, and he is convinced that this arterial lesion is never absent. Martin describes acute progressive endarteritis in diphtheria, and gives as an example an instance of diphtheritic broncho-pneumonia. He also speaks of the acute progressive endarteritis of typhoid fever with a case of typhoid myocarditis dependent, like the broncho-pneumonia, on endarteritis.

He closes his work with the following conclusions : 1. The internal tunic of most arterioles is exposed during almost the whole of life to conditions causing irritation. 2. The consequent progressive obliterative endarteritis begins in young children in certain nutrient vessels at the origin of the aorta, but, later, attacks others vessels, by preference, however, in organs with active circulation. 3. The progressive diminution of the nutritive supply of the organs causes an atrophy of functional elements and a development of fibrous tissue, beginning at the furthest point from the diseased vessels, where the nutrition is worst. This fibrous change he calls dystrophic sclerosis. 4. The recognition of this endarteritis accounts for many visceral scleroses, and gives a connecting link binding them together. 5. Progressive endarteritis may occur in an acute form in infectious diseases, and this, if attacking an important organ, may rapidly kill the patient. 6. The irritant particles in the blood, especially in certain states (alcoholic, saturnine, gouty, etc.), must exaggerate and hasten the evolution of the endarteritis. 7. The proliferative lesion beginning in the endarterium may be localised there or spread beyond. Sometimes it predominates beyond, and then the early phases of the morbid process must be grasped to understand the beginning, localisation, and evolution of the lesion.

GEORGE A. GIBSON, M.D.

7. *Greenfield on Anthrax*.—It has been ascertained by Duguid and Sanderson that bovine animals inoculated with anthrax-virus suffer only from a very mild form of the malady, chiefly consisting in a febrile rise of temperature, which, however, after a few days leads to perfect recovery. Animals so inoculated remain safe against further contagion. Professor Greenfield (*The Veterinarian*, October 1881) by new and important experiments, fully confirms, and, to a considerable extent, extends the above results. Four heifers, A, B, C, and D, were used for experiment. Heifer C was inoculated with cultivated bacillus anthracis of the third generation. The next day the animal showed rise of temperature and other signs of constitutional disturbance, besides swelling at the seat of inoculation. About the fourth day both the local and general symptoms had reached their maximum (temperature 106°) and then declined. On the eighth day recovery had set in. No pustules had been observed during the illness in any part of the skin, nor had bacilli been found in the blood of the ear. At the end of ten weeks, the animal being in perfect health, it was again inoculated, but this time with anthrax-virus from the guinea-pig. The spleen of the animal, swollen and swarming with bacilli, was reduced to a pulp, mixed with water, and the entire quantity injected beneath the skin of the flank of the above heifer. Not the slightest symptom, either local or general, followed this inoculation. Heifer D was inoculated with the eighth generation of artificially cultivated bacillus anthracis. Only a slight rise of temperature was observed the next day. A week later it was again inoculated with the seventh generation of cultivated bacillus anthracis, but without any other effect beyond a small local swelling. Three months later it was inoculated with half a drachm of blood of a man, a woolsorter, who had died of general anthrax (woolsorters' disease). The blood was fresh and swarming with bacilli. Inoculated into rodents, this blood produced typical anthrax. The heifer D thus inoculated suffered from a very severe illness, rise of temperature, great general prostration, and much local swelling. On the fifth day the condition began to improve, and the animal

speedily recovered. A month later both heifers, C and D, were inoculated with the blood of a cow that had died of splenic fever. This blood produced typical anthrax in rodents, and was swarming with bacilli. In heifer C a slight rise of temperature (half a degree) was observed on the following day, but in neither case were there any symptoms indicating disease. Two other heifers, A and B, having been five months previously inoculated, and thus made immune, were subjected to subcutaneous inoculation with one drachm of blood (swarming with bacilli) of a sheep that had died of general anthrax. No effect was produced. Subsequently the heifers, A, C, and D, were placed under conditions in which they in all probability would have contracted splenic fever, had they not been made immune by previous inoculation. They were, transferred to fields in a sewage farm at Harden, near Bingley, in which several cases of anthrax in cattle and sheep had occurred previously to and after their arrival. These fields were supplied with sewage, by far the larger quantity of which consisted of 'sud-water' of a mill, where bad Van mohair is used. Several cases of woolsorters' disease had occurred among the workers in this mill, and it is now known that Van mohair is often considerably contaminated with anthrax-virus. From Dr. Greenfield's inquiry, there can be little doubt that the cases of anthrax in cattle and sheep that occurred in this sewage-farm were directly due to the poison of anthrax, conveyed in the sud-water from the mill to the fields. The above heifers, A, C, and D, were kept in these fields for three months; and, although two cases of anthrax had subsequently occurred in sheep pasturing in these fields, the heifers remained well.

E. KLEIN.

8. *Kraunhals on Fungoid Vegetation in the Animal Organism*.—In 1869 and 1870, Grohe and Block succeeded in so cultivating ordinary fungi that they grew when injected into the living body. These results were not confirmed till quite recently, when P. Grawitz (*Virchow's Archiv*, Band lxxxi), after numerous ineffectual attempts, was able to obtain similar facts. He carefully cultivated fungi in various substances and at various temperatures, till at last they grew on alkaline albuminous fluids at a temperature of 38 to 40 deg. Cent. (100.4 to 104.0 Fahr.) When the fungi (generally *Penicillium* and *Eurotium*) were then injected into the blood-vessels of animals, they grew and produced mycelium in the internal organs. Kraunhals (*St. Petersb. Med. Woch.*, Feb. 21, 1881) repeated Grawitz's experiments, and he describes the *post mortem* appearances in two animals into which he injected the fungi. The spores were taken from a crust of bread covered with fungous vegetation, and were served on bread which was mixed with water so as to form a thick paste. From this they were transferred to an infusion of bread kept at the ordinary temperature. The next generation grew at a temperature of 30 deg. Cent. (86 deg. Fahr.), and the following one at 38 to 40 deg. Cent. Two per cent. of cane-sugar was then added to the next infusion of bread. The following one contained a small quantity of bicarbonate of soda so as to make it almost neutral; and in the following cultivations the sugar was reduced and ultimately left out, while the alkalinity of the infusion was gradually increased. Of this fluid, containing only spores and no mycelium, 1½ Pravaz's syringes were injected into the jugular veins of a young rabbit. This animal died thirty-two hours later. A much smaller quantity was introduced into a guinea-pig, which died in twenty-six hours, and a

similar quantity from another cultivation killed a guinea-pig in thirty hours. The *post mortem* examination gave a negative result; but, on microscopic examination of the organs, it was found that these spores had germinated, and mycelium was found in various parts. This was chiefly seen in the kidneys, almost all the glomeruli being the seat of delicate mycelium-threads. After the kidney came the liver, and then the spleen and muscular tissue of the heart. There were only a few short threads in the kidneys. Kraunhals thinks that it would be premature to draw any conclusions from these facts.

W. WATSON CHEYNE.

9. *Polaillon on Congenital Absence of a Portion of the Diaphragm.*—The author (*L'Union Méd.*, July 14, 1881) considers this malformation to be a cause, though a rare one, of death among still-born children. Its diagnosis is not easy; and Isidore Geoffroy St. Hilaire has observed that, as a rule, it is not accompanied by any external defect of development. Congenital fissures of the diaphragm may appear simply as small round holes, generally in its muscular portion, or may occupy half its normal area, in which extreme form the pleura and peritoneum may coalesce and prevent abnormal communication between the thoracic and abdominal cavities; but the serous membranes are generally deficient, and the abdominal viscera invade the thorax. The malformation appears to be one-third more frequent on the left than on the right side, and large fissures on the left side are the cause of rapid death after birth, owing to displacement of the heart by the abdominal viscera, which rise into the left pleural cavity. When the diaphragm is deficient on the right side, the child lives at least some hours, and life has been prolonged in a few cases to three and to five and a half years. After describing two cases of extreme deficiency of the diaphragm (in the *Lancet*, vol. ii, 1879, p. 503, the second in the author's own practice), Dr. Polaillon observes that, in some recorded instances of this malformation, the sounds of the child's heart before birth were known to have been normal. After birth, the movements of respiration involve obvious complications, when the diaphragm is deficient. The chief symptoms observed in these cases, when the child has lived a few hours, are: displacement of the heart, most characteristic when that organ lies considerably to the right of its normal position; extreme dyspnoea with marked thoracic respiration and violent inspiratory efforts; and the production of borborygmi on applying pressure to the base of the thorax. When the infant survives for several weeks, auscultation will detect complete absence of vesicular murmur on one side of the thorax, with borborygmi during deep inspiration. Resonance on percussion will be impaired, and there will be complete dulness at parts where solid abdominal organs, like the liver, have been pushed upwards. Treatment is of no avail; and at birth, insufflation must be performed with caution, lest air be introduced into the alimentary canal, producing tympanites, which must inevitably increase the displacement of the abdominal viscera and hasten death. Small fissures of the diaphragm do not bring about rapidly fatal results, but predispose the patient to diaphragmatic hernia. Dr. Polaillon does not enter into any questions concerning this affection; but Dr. Lacher (*Deutsch. Arch. für Klin. Med.*, vol. xxvii, and *Brit. Med. Jour.*, July 30, 1881, p. 171) has found, in collecting 276 cases of diaphragmatic hernia, that 123 are recorded as congenital, 143 acquired, and 10 uncertain as to origin.

ALAN DORAN.

10. *Jarisch on the Coincidence of Diseases of the Skin and of the Grey Matter of the Spinal Cord.*—This author has examined the spinal cord of a patient who had suffered from severe herpes iris with fever, and who, without affection of motion or sensation, died of pulmonary inflammation and chronic Bright's disease, acute bed-sores having developed over the sacrum. He found (*Vierteiljahr. für Dermat. und Syph.*, 1880, p. 195) well-marked changes in the grey matter of the cord, the central and posterior parts of both anterior horns spongy in texture or brittle; and symmetrical areas of lateral degeneration from the second to the fifth cervical nerve. Most of the ganglion-cells in the anterior horns from the third cervical to the eighth dorsal vertebra were coarsely granular with thickened processes, set in a coarse reticular stroma. This alteration was best marked where Charcot supposes the trophic centres for the skin to exist. In three cases of syphilis, Dr. Jarisch found circumscribed areas of degeneration in the central parts of the anterior horns, with coarsely granular or shrunken ganglion-cells. In a case of chronic psoriasis, and a case of acute erythematous lupus, he found sclerotic areas in the same position.

11. *Penzoldt on Thrombosis of the Carotid Artery.*—Thrombosis of the carotid arteries generally results from the extension of a clot formed in an aneurysmal dilatation of the arch of the aorta, of the innominate or of the subclavian artery. The author communicates (*Deut. Archiv für Klin. Med.*, Band xxviii, Heft 1, pp. 80-93) two cases of local thrombus-formation. In the first case the symptoms began with sudden disturbance of vision, and loss of pulsation in the right carotid. Later, left hemiplegia and hemianæsthesia followed. In the course of a year a partial improvement took place, followed, however, by occasional epileptiform attacks and return of the paralysis. On *post mortem* examination, there was found thrombosis of the right carotid, with a large area of cerebral softening in the right hemisphere. In the second case, there was for years mental disease of the nature of general paralysis. One day the patient suddenly fell down, and two days later he died. The *post mortem* examination showed thrombosis of the left carotid and of the middle cerebral artery, with an area of softening in the corpus striatum. In the first case, it was doubtful whether the thrombus was autochthonous or embolic; in the second, it was almost undoubtedly autochthonous. The author asks why cerebral disease should follow thrombosis of the carotid artery, when it seldom follows ligation of that vessel; but says he can give no answer on the point.

12. *Kümmel on a Case of Glioma of the Pons Varolii and Medulla Oblongata.*—The case (*Zeitsch. für Klin. Med.*, Band ii, p. 230) was that of a man, aged 23, who received a severe blow on the head. Here recovered after several days' unconsciousness: but in the course of the following year became affected with a rapidly increasing paralysis of the left facial, sixth, and ninth nerves, accompanied by left-sided deafness, vertigo, and tottering gait. A few days after admission into the hospital, he died of pneumonia. The *post mortem* examination showed a diffuse gliomatous hypertrophy of the pons, medulla oblongata, and corpora quadrigemina, especially of the left side, also hypertrophy of the crura cerebri, the optic nerves, the third nerves, and the upper part of the spinal cord. There was no circumscribed tumour; and an enlargement of the individual fibres of the third nerve showed that the nervous elements, as well as

the neuroglia, took part in the formation of the tumour.

13. Zunker on the Function of the Anterior Grey Column of the Spinal Cord.—The first symptoms of disease in the case of a man, aged 33, reported by this author (*Zeit. für Klin. Med.*, Band ii, p. 355) were pain, and a feeling of cold in the right calf. Soon there appeared stranguity and paralysis of the right lower limb, especially the extensors of the leg and the adductors. Pressure on these flabby muscles was painful; the tendon-reflexes were absent; the sensibility on both sides was diminished as far as the knee. The electric irritability was at first little altered, but later it failed entirely for the indirect faradic stimulation; direct faradic stimulation produced slight vibrating contractions. With the constant current, the muscles of the thigh gave weak contractions, abnormal only in that the contractions of the negative and positive poles (on closing the current?) lay very near each other. A marked plantar reflex was present, while the tendon-reflexes failed. Ultimately there appeared sharp shooting pains in the lower extremities, involuntary contraction of the flexors, and bed-sores. Both lungs were partly destroyed by a diffuse ulcerative process. In the lumbar part of the spinal cord, between the second and fourth pairs, especially on the right side, was a reddish-grey translucent mass, which proved to be tubercular. The grey substance was entirely replaced by the tumour, the large ganglion-cells had disappeared, and there were an ascending degeneration involving the postero-median column, and a peripheral segment of the lateral column, and a descending degeneration of the crossed pyramidal tracts. The nerve-roots in the neighbourhood of the disease were intact, but the branches of the anterior crural nerve were thin, grey, and varicose, and there were the usual appearances of atrophy in the affected muscles. The other nerves and muscles of the lower extremities were comparatively normal.

JAMES ANDERSON, M.D.

DISEASES OF THE THROAT.

RECENT PAPERS.

1. SCHIFFERS.—Laryngeal Syphilis Complicated with Acute Respiratory Paralysis. (*Jour. de Méd.*, Jan. and Feb., 1881; *Revue Mens. de Laryng.*, etc., June 1881.)
2. SEILER.—Syphilitic Laryngitis. (*New York Med. Gaz.*, May 1881.)
3. ANDERSON, McCALL.—Bilateral Paralysis of the Vocal Cords. (*Brit. Med. Jour.*, June 18, 1881.)
4. SCHIFFERS.—Paralysis of the Posterior Crico-Arytenoid Muscles. (*Revue Mens. de Laryng.*, etc., June 1881.)
5. GUINIER.—Case of Ephemeral Tumour of the Larynx. (*Revue Mens. de Laryng.*, June 1881.)
6. WHIPHAM.—Aortic Aneurism Encroaching on the Trachea, demonstrated during Life by the Laryngoscope. (*Brit. Med. Jour.*, May 1881.)
7. PATON.—A Case of Croup treated by Passing Catheters into the Trachea by the Mouth. (*Brit. Med. Jour.*, May 21, 1881.)
8. SANCTUARY.—Tracheal Catheterism in Croup. (*Brit. Med. Jour.*, June 25, 1881.)
9. WAGNER.—Habitual Mouth-Breathing. (*New York Med. Rec.*, *Med. Soc. of New York*, April 25, 1881.)
10. GEMMELL.—Fibrous Casts of the Larynx and Trachea. (*Brit. Med. Jour.*, June 1881.)
11. GAILLARD.—Repeated Epistaxis; Cauterisations with Perchloride of Iron; Death; Deposit of Iron upon the Arachnoid. (*Progrès Méd.*, April 2, 1881.)

12. HARTMANN.—Rhinoscopic Operations. (*Berl. Klin. Woch.*, June 6, 1881.)

13. ZUCKERKANDL.—On an Abnormal Condition of the Lingual Arteries. (*Wiener Med. Woch.*, July 16, 1881.)

14. WHIPHAM and PICK.—Extirpation of the Larynx. (*Brit. Med. Jour.*, April 9, 1881.)

1. *Schiffers on Laryngeal Syphilis Complicated with Acute Respiratory Paralysis.*—The author (*Jour. de Méd.*, Jan. and Feb. 1881; and *Revue Mens. de Laryng.*, etc., June 1881) reports a case of laryngeal syphilis, with absence of lesions of the pharynx and isthmus of the fauces. The chief symptom was intense dyspnoea, due to the faulty action of the crico-arytenoid muscles. The paralysis Dr. Schiffers regarded as occasioned by the infiltration of these muscles, consecutive to that of the mucous tissue. Electricity, injections of morphia, and mercurial inunctions were used to relieve the paralysis, and iodide of potassium was given.

2. *Seiler on Syphilitic Laryngitis.*—The author (*New York Med. Gaz.*, May 1881) lays much stress, in the diagnosis of this affection from non-specific inflammation of the larynx, on the peculiar carmine discoloration of the mucous membrane and the symmetrical disposition of the inflammatory patches in the syphilitic affection. Another diagnostic sign is the red line observed upon the velum palati. Dr. Seiler recommends as treatment, besides the systemic and supporting, local touching of the shallow ulcers with solid nitrate of silver fused upon an aluminium probe, and of the deep ulceration with acid nitrate of mercury (1 to 4), or the galvanic cautery.

3. *Anderson on Bilateral Paralysis of the Vocal Cord.*—Dr. McCall Anderson details a case (*Brit. Med. Jour.*, June 18, 1881) of paralysis of the adductors and abductors of the glottis, due to the presence of a large aneurism of the transverse portion of the arch of the aorta pressing on the left, and to a slighter extent on the right, recurrent laryngeal nerve. The diagnosis was verified by a *post mortem* examination.

4. *Schiffers on Paralysis of the Posterior Crico-Arytenoid Muscles.*—This case is published in the *Revue Mens. de Laryng.*, etc., June 1881. The patient, aged 32, of a nervous temperament, had suffered for some months from constant dyspnoea. On laryngoscopic examination, the cords were seen to approach when *a* and *e* were sounded, but they did not separate when an ordinary inspiration was made. During a forced inspiration, the glottis narrowed and was reduced to a chink a line in width. Dr. Schiffers judged this case to be one of hysterical paralysis. Repeated applications of electricity effected a cure.

5. *Guinier on a Case of Ephemeral Tumour of the Larynx.*—The following case of aphonia (*Revue Mens. de Laryng.*, etc., June 1881) is of interest, in that the patient presented two distinct forms of aphonia at the same time—the one incontestably of a hysterical-nervous nature, presenting inexplicable intermittences, and only existing in the voluntary movements of the glottis, and the other due to the presence of a pedunculated cyst, and coming on after a certain manner of clearing the throat, or any sudden alteration of the position of the neck. The patient, a lady aged 30, of a nervous temperament, for four seasons attended the thermal course at Cauterets, under Dr. Guinier's care. The first visit was undertaken for aphonia, which had come on five months before, and which Dr. Guinier

diagnosed as of hystero-nervous nature. On her return a year later, aphonia was still present. During this course her voice suddenly returned after an energetic cauterisation of the throat, but two days later as suddenly disappeared again. The following year the aphonia was not constant, but intermittent. During the aphonic periods the sound of coughing, crying, and laughing was normal; the patient would also talk in her sleep. During the periods of return of voice, it was observed that she became suddenly aphonic when she bent her head forward or coughed in a certain manner. On her third visit to Cauterets, Dr. Guinier discovered a small vesicular or cystic tumour, appearing to proceed from below the anterior angle of the glottic opening. It was pedunculated and freely movable; and if the patient cleared her throat in a certain manner, or inclined her head suddenly, it was retained in the glottis, the vocal cords acting like forceps. At the end of two years from this time, during a fourth thermal course, the tumour grew smaller, and then suddenly disappeared. Since that time, the voice has remained normal.

6. *Whipham on Aortic Aneurism Encroaching on the Trachea demonstrated during Life by the Laryngoscope.*—The patient, aged 49 (*Brit. Med. Jour.*, May 1881, p. 849), was admitted almost speechless with severe dyspnoea. His health had always been good; the present attack came on suddenly. The heart was not obviously out of position; a systolic bruit was heard over the base and to the right of the sternum; no abnormal thrill or pulsation was detected. The pulses in the radial arteries were equal and rather hard; wheezing and stridulous sounds were audible throughout the chest. A laryngoscopic examination was made. The vocal cords were faintly pink, but there was no swelling of the larynx, and all the movements of the cords were perfect. The mucous membrane covering the tracheal swelling were much congested. The patient died in a few hours. At the necropsy, an aneurism was found involving the descending portion of the aortic arch, and the commencement of the thoracic aorta. From the right of the upper part of the sac, a secondary aneurism, with thin soft walls, arose, and this had flattened and produced a certain amount of atrophy of the oesophagus, and had caused the bulging seen in the trachea. The diagnosis during life was that a tumour (in all probability an aneurism) was the cause of both the appearances and symptoms, and the case was adduced as being a rare instance of actual demonstration of an aneurism pressing on the trachea at its bifurcation. The sudden access of the symptoms was possibly explained by the rapid dilatation of the thin walls of the secondary aneurism.

7. *Paton on a Case of Croup treated by Passing Catheters into the Trachea by the Mouth.*—A child, aged three years and ten months (*Brit. Med. Jour.*, May 21, 1881), was suffering from intense dyspnoea and speechlessness. The cough was constant, brassy, and without expectoration. The lips were of a dark livid colour. Dr. Paton, watching an opportunity while the tongue was depressed with a spoon, passed a prostatic catheter into the trachea during an attempted inspiration without difficulty. A severe struggle followed, the face becoming purple. The paroxysmal efforts to repel the tube being unsuccessful, a pretty full inspiration, partly through the tube and partly through the larynx, followed; about two ounces of frothy, bloody, and purulent mucus were ejected by the tube and the mouth, the livid colour

disappeared, and the child lay down, breathing easily through the tube. He could swallow milk, although sometimes a little of this was ejected from the tube during a cough. The tube was retained *in situ* by a strip of plaster, and the teeth were prevented from closing on it by means of a pear-shaped piece of hard wood. Six hours afterwards he was much easier, and could say 'yes' and 'no'. The tube was removed without any inconvenience after it had been in the trachea eleven hours, as the child had bitten it, and no air was passing through it. Another ordinary gum-elastic catheter (No. 12) was introduced, only a slight momentary struggle and cough supervening. At the end of the third day the child was so well as to be able to breathe freely without the tube, and was quite well before the tenth day. Dr. Paton is not aware that this treatment has been used in children, but refers to two papers by Dr. Macewen, in the *Brit. Med. Jour.*, July 24 and 31, 1880, on the 'Value of Tracheal Tubes Introduced by the Mouth in Edema Glottidis' in the case of adults.

8. *Sanctuary on Tracheal Catheterism in Croup.*—The following case is recorded in the *Brit. Med. Jour.*, June 25, 1881. A child, aged two years and a half, was suffering from severe dyspnoea and a sharp clanging cough; breathing hissing, and sometimes crowing, with lengthened inspirations. The sides of the chest and lower part of the sternum were visibly contracted. The lips were of a livid blue colour. A large (No. 12) gum-elastic catheter was introduced without much difficulty, the child's mouth having first been gagged with a cork, and the tongue depressed with a spoon. After a severe paroxysm, the child succeeded in getting a fairly good breath, and mucopurulent debris and sticky phlegm were ejected through the tube. In half an hour, the breathing was fairly comfortable. The tube was retained by tape tied round the child's neck, and was removed twenty hours after its insertion. Five days later, she was well.

9. *Wagner on Habitual Mouth-Breathing.*—Dr. Wagner, in a paper read before the Medical Society of New York, April 25, 1881 (*New York Med. Rec.*), enumerates the causes of habitual mouth-breathing as: Narrowing of the nostrils, growths, false membranes, congenital closure of the posterior nares, cicatricial contractions, foreign bodies, hypertrophy of mucous membrane, paralysis of dilators of the nostril, enlarged tonsils, lingual and sublingual tumours, elongated uvula, adhesions of the soft palate to the posterior wall of the pharynx, and irregular, uneven, and protruding teeth. The effects he mentions are changes in the physiognomy, impairment or complete loss of smell and hearing, chronic catarrhal laryngitis, snoring, pigeon breast, imperfect oxygenation of blood and its consequences, asthma, and acute hyperæmia of the lungs. The treatment depends upon the cause. Dr. Goodwillie's cutting burr is recommended for removing long and cartilaginous obstructions, the snare or galvanic cauterium loop for nasal polypi, and slightly curved and olive-pointed metallic sounds for dilating strictural narrowing of the nasal passages. For hypertrophy of the mucous membrane, the following lotion is applied with a brush or on cotton. R Iodini grā. ii; potassii iodidi, grā. iv; zinci iodidi, grā. x; aquæ, 5i. Dr. Wagner has removed the tonsils over five hundred times, and has had no accident following the operation.

10. *Gemmell on Fibrinous Casts of the Larynx and Trachea.*—Dr. Gemmell showed, at the Glasgow

Clinical and Pathological Society (*Brit. Med. Jour.*, June 18, 1881), specimens from a boy, aged 8 years, in whom the symptoms began with sudden and severe dyspnoea, laryngeal cough, and slight rise of pulse and temperature. After a slight remission, an exacerbation occurred a few days later, and the cast of the larynx was coughed up. On the eighth day of the disease tracheotomy was required, and thereafter the cast of the trachea and bronchus was coughed up through the tube. The urine became albuminous—great prostration ensued, and three days later the patient died. The temperature was never higher than 101 deg. Fahr., and no exudation was seen in the pharynx till near the end, when it spread rapidly upwards into the nares, and even over the edges of the tracheotomy wound.

11. *Gaillard on Repeated Epistaxis; Cauterisation with Perchloride of Iron; Death; Deposit of Iron upon the Arachnoid.*—The patient (*Le Progrès Méd.*, April 2, 1881), a man aged 55, with no history of hæmophilia, was admitted with copious bleeding of the nose, which had come on three days previously, and had been each day arrested with a plug of lint dipped in perchloride of iron, and applied to the right nostril. After his admission, both the posterior and anterior orifice of the right nasal cavity were plugged with lint. On the third day pus flowed from the left nostril, and on the following day from both nostrils and from the lachrymal puncta. Death ensued a few hours afterwards. At the *post mortem* examination a dark spot, found to contain iron, was observed in the arachnoid on the surface of the right gyrus rectus, around the olfactory nerve, in a situation corresponding to the cribriform plate of the ethmoid. There was no meningitis nor purulent infiltration. On the surface of the cribriform plate of the ethmoid, the dura mater was also black, and the neighbouring part of the frontal bone seemed slightly infiltrated. The nasal fossæ were filled with purulent matter. The mucous membrane, especially on the right side, was easily detached from the bone. The same inflammation was found in the maxillary and sphenoidal sinuses. 'It was evident,' says the author, 'that the perchloride of iron had been the cause of the inflammation of the mucous membrane of the nasal fossæ, and that it had found its way through the holes in the plate of the ethmoid, following the vessels and nerves as far as the surface of the membrane of the frontal lobes, where its presence was demonstrated by chemical reaction.'

12. *Hartmann on Rhinoscopic Operations.*—Dr. Hartmann (*Berl. Klin. Woch.*, June 6, 1881) has devised an instrument as an aid to rhinoscopic investigations and operations, viz., a strongly bent hook provided with a handle, a piece of curved metal being attached to the handle and working upon it by a screw. The hook is passed behind the soft palate, and the curved piece attached to the handle is introduced into the nostrils, pressed against the hook, and there fastened by the screw, thus keeping the instrument firmly in position and the palate well drawn forward. This instrument is well adapted for purposes of autorhinoscopy and in operations undertaken without assistance. In answer to the objection raised by Fränkel, that different shaped faces require different sized instruments, the author asserts that one form and size suffices for all adults.

13. *Zuckerkandl on an Abnormal Condition of the Lingual Arteries.*—The author describes (*Wiener Med. Woch.*, July 16, 1881) the following abnormality. No lingual artery arose from the carotid on the left side. The right lingual artery was nearly

twice its usual size; it ran in the normal manner to the right lesser cornu of the hyoid bone, and here divided into two vessels of almost equal size, one of which entered the right half of the tongue to ramify in the normal manner; the other crossed over to the left at the upper edge of the hyoid bone, between the genio-hyo-glossus muscle and the genio-hyoideus, turned forwards along the lateral surface of the left genio-hyo-glossus, and for the rest of its course performed the function of the left lingual artery. The middle portion of the left lingual artery, therefore, was absent from the external carotid to the left genio-hyo-glossus. The abnormal artery appears to be merely an enlargement of the normal twigs which anastomose across the middle line in this situation.

14. *Whipham and Pick on Extirpation of the Larynx.*—The patient was a man aged 39 (*Brit. Med. Jour.*, April 9, 1881), in whom extirpation of the larynx was undertaken for a growth originally affecting the left ventricular band and vocal cord, and subsequently involving the whole larynx. An incision was made two-and-a-half inches in the median line of the neck, and a second incision, at right angles to it, across the middle of the thyroid cartilage. On reflecting the skin, the growth was found to involve the left ala of this cartilage. The thyroid cartilage was divided vertically in the middle line, and the two halves separated, when the whole larynx was found occluded by the growth. The left ala was removed, and subsequently the right also. The cricoid cartilage, the remains of the arytenoids, and finally the epiglottis, were cut away. The wound was carefully explored, and all traces of the growth, as far as possible, removed. No vessel required ligation. The operation lasted three quarters of an hour, and the patient was not much exhausted at its close. The wound was plugged with sponges. For two days, progress was satisfactory. On the third day, change for the worse set in, and the patient died on the fifth day after the operation. Right pleurisy and pericarditis, presumably pyæmic, were the chief lesions found at the necropsy. The authors are of opinion that the operation might have been successful, had it been undertaken as soon as the malignancy of the disease became manifest. They also consider the plan of dividing the thyroid cartilage, and removing each half separately, preferable to removing the larynx entire: because, first, the extent of the disease could be better ascertained, and, secondly, there was less danger of wounding important structures.

W. J. WALSHAM.

OPHTHALMOLOGY.

RECENT PAPERS.

1. JUST.—Antiseptics in Eye-Operations. (*Centralt. für die Prakt. Augen.*, June 1881).

2. JUST.—The Treatment of Ilypopyon by Manipulation of the Eye. (*Ibid.*)

3. CHISHOLM.—The Treatment of Iritis by Salicylate of Soda. (*Ibid.*)

4. KÖNIGSTEIN.—Examination of the Eyes of New-born Children. (*Wiener Med. Blätter*, Band iv; and *Centralt. für die Prakt. Augen.*, June.)

5. FÜCHS.—The Treatment of Gonorrhœal Conjunctivitis by Division of the External Commissure and Fixed Eversion of the Lower Lid. (*Centralt. für die Prakt. Augen.*, June 1881.)

6. SAMELSON.—The Ophthalmo-therapeutic Action of Nitrite of Amyl. (Gräfe's *Archiv*, Band xxvii; and *Centralb. für die Prakt. Augen.*, June 1881.)

7. SCHROEDER.—Treatment of Eye-Diseases by Pilocarpin. (*St. Petersb. Med. Woch.*, No. 5, 1881.)

8. DE WEECKE.—Nerve-stretching in Ophthalmic Surgery. (*Klin. Monats. für Augen.*, June 1881.)

9. EMERY-JONES.—On the Treatment of Ophthalmic Neonatorum. (*Brit. Med. Jour.*, March 1881.)

10. RAHMANN.—Amyloid Degeneration of the Conjunctiva. (*Archiv für Augenheilk.*, Band x.)

11. PAGENSTECHER.—The Extraction of Cataract in Closed Capsule. (*Arch. für Augenheilk.*, Band x.)

12. BULL.—Lachrymal Conjunctivitis. (*Trans. of Med. Soc. of New York*, 1881.)

13. TARTUFERI.—On the Cell Forms of the Conjunctival Epithelium. (*Giornale Internazionale delle Scienze Mediche*, Fasc. 9.)

14. KLEM, E.—On a Pulsating Orbital Tumour. (*Norsk. Mag. für Lægevid.*, Ser. 3, Band ix.)

15. ASPLUND, M.—Meningitis after Enucleation of the Eye. (*Hygia*, 1880; and *Nord. Med. Arkiv*, Band xiii.)

16. AGNEW, C. R.—On Incision of the Lacrymal Sac. (*Detroit Lancet*)

17. FERNANDEZ, J. S.—On Amaurosis from Lesions of the Orbital Region. (*Amer. Jour. of Med. Sciences.*)

1. *Just on Antiseptics in Eye-Operations.*—Among 200 cataract extractions performed before May 1878, Dr. Just (*Centralb. für Praktische Augenheilk.*, June 1881) had met with not one instance of suppuration. He then adopted the antiseptic methods advocated by Alf. Graefe (*Arch. für Ophth.*, Band xxiv), being led thereto by the good results gained from disinfection of the conjunctiva in cases of cataract complicated by discharge from the lachrymal sac. Among 180 cases treated by this not very strict antiseptic method, suppuration of the cornea commencing in the wound occurred six times. He then resolved to practise a stricter antiseptis, and adopted the following measures. The hands and face of the patient having been washed with soap on the evening previous to operation, carbolic compresses were applied up to the time of operation; the instruments were laid in 5 per cent. carbolic solution, and lightly dried only at the moment of their use. The whole operation was performed under the steam-spray. The eye was dressed with boracic lint, protective, and boracic cotton-wool. Subsequent dressings were always made under the spray, with disinfected hands, and with fresh materials, in the morning, before other patients had been dealt with. Among 25 cases thus rigorously treated, suppuration of the wound within twenty-four hours occurred twice. Dr. Just does not feel justified in drawing the conclusion that antiseptics are of no value in ophthalmic surgery, but points out that the methods employed by him are manifestly no safeguard against suppuration.

2. *Just on the Treatment of Hypopyon by Manipulation of the Eye.*—By means of gently stroking and rubbing the eyeball with the lower eyelid, Dr. Just has succeeded in distributing the purulent collection over the anterior chamber, and thus mixing it freely with the aqueous humour (*Centralb. für Praktische Augenheilk.*, June 1881). He has several times seen a hypopyon thus treated undergo exceptionally rapid reabsorption. A note is added by Dr. Hirschberg, to the effect that by causing the patient to lie on the right side and the left side alternately, changing the position from hour to hour, a similarly rapid reabsorption of a movable hypopyon may be induced.

3. *Chisholm on the Treatment of Iritis by Salicylate of Soda.*—Dr. Chisholm (Knapp and Hirschberg's *Archiv*, and *Centralb. für Prakt. Augenheilk.*, June 1881) has given large doses of this drug in cases of acute scleritis and iritis, including those of specific origin, in which the continued use of mercury and iodide of potassium had failed, with good results. Mydriatics were used at the same time. The salicylate was given in three-hourly doses, amounting to as much as 9 to 12 grammes (130 to 180 grains) in the twenty-four hours. The doses were reduced as the attack subsided. On account of the unpleasant effects of the medicine, its use was suspended when no decided benefit was manifest within two or three days.

4. *Königstein on the Examination of Eyes of New-born Children.*—Königstein (*Wien. Med. Blätter*, Band iv, and *Centralb. für Prakt. Augenheilk.*, June 1881) says that among 281 eyes there was no instance of myopia. The iris was mostly grey, inclining towards blue or green. The difference between the arteries and veins of the fundus was less manifest than in the adult. Retinal hæmorrhages were very frequent, but soon disappeared.

5. *Fuchs on the Treatment of Gonorrhæal Conjunctivitis by Division of the External Commissure and Fixed Eversion of the Lower Lid.*—In a severe case of this disease, in which one eye was already lost through corneal suppurative, and the other was in a state of acute inflammation, with great chemosis and swelling of the lids, and turbidity of the cornea, Dr. Fuchs proceeded as follows (*Centralb. für die Prakt. Augenheilk.*, July 1881). The outer commissure was freely divided, so as to completely relax the eyelids; a loop of thread was passed through the lower eyelid, and brought out and fastened far down on the cheek by Gaillard's method, so as to cause complete ectropion of the lower lid; iced compresses and frequent cleansings were ordered. The cornea was perfectly clear on the fifth day; cure was effected; the incision through the commissure resulted in a fine linear cicatrix. In a second case, in which, likewise, turbidity of the cornea had already appeared, complete cure was effected by the same measures. By this proceeding, the author alleges that he obtains the advantages which Mr. Critchett has achieved by bisecting the upper eyelid, without the danger of subsequent deformity which he believes to attend the latter operation. The advantages gained are diminution of the pressure of the lids, increased ease of egress for the purulent secretion, ready access to the inner surface of the lids for cleansing purposes, and free escape of blood from the incised commissure.

6. *Samelsohn on the Ophthalmo-therapeutic Action of Nitrite of Amyl.*—As a supplement to three cases of affection of the optic nerve benefited by this drug, published by Deutschmann (Gräfe's *Archiv*, Band xxvii, Heft 1), Dr. Samelsohn records a similar experience in his own practice (*Centralb. für die Prakt. Augen.*, July 1881). Extreme amblyopia of the right eye occurred rather suddenly in a married woman, aged 36, simultaneously with the return of the menses, three months after a normal labour. Eight days after its onset, the amaurosis was found to be absolute; the pupil of the affected eye was devoid of reaction to light, though consensually active; the papilla was paler than in the healthy eye, but not atrophic or obscured at the margin; the large retinal vessels were decidedly smaller than in the fellow-eye. Six drops of amyl-nitrite on a cloth were given as an inhalation; hyperæmia of the

face occurred promptly, and simultaneously with it a manifest injection of the right papilla was observed by Dr. Samelsohn and verified by Professor Rothmund. A restoration of sensibility in a portion of the retina was discovered immediately afterwards. Further improvement was observed after subsequent inhalations. Ultimately, after treatment with strychnia injections, complete restoration of the visual acuity and field, and of the action of the pupil, was obtained.

7. *Schroeder on the Treatment of Eye-Diseases by Pilocarpin.*—The author reviews the facts which have been accumulated concerning the action of pilocarpin, and records his experience of its use in twenty-five cases treated in the St. Petersburg Eye Hospital (*St. Petersburg Med. Woch.*, No. 5, 1881). Introduced by the stomach or the skin, the drug causes a paralytic dilatation of the peripheral vessels, a slight rise of temperature in the axilla, a slight fall of blood-pressure, a slight acceleration (with larger doses a retardation) of the pulse, and a very profuse sweating and salivation. The sweating begins at the head, and spreads to the feet. In equal doses, the internal administration is ten times less powerful than the subcutaneous. By the latter method, a dose of 15 milligrammes (= about $\frac{1}{4}$ grain) causes a loss of fluid, salivary and cutaneous, of 500 grammes to 2 kilogrammes (= about 1 to 4 pounds) in the course of one to two hours. A brief mention is made of the results which have been obtained with pilocarpin in the treatment of dropsy from acute or chronic nephritis, and from cardiac disease, of pleurisy with effusion, emphysema, malaria, parotitis, rheumatic affections, syphilis, croup, and diphtheria. For the last-named disease, pilocarpin is stated by Guttman to be a certain remedy, 81 cases having been rapidly cured by its means by him. Unpleasant and serious effects sometimes follow the use of the drug, viz., nausea, vomiting, gastralgia, diarrhoea with tenesmus, strangury, dizziness, and collapse. Schroeder believes they may be avoided by proceeding with due caution. For patients whose general health was fairly good, he began with 15 milligrammes of pilocarpin (= about $\frac{1}{4}$ grain) subcutaneously; for those whose strength was much reduced, with less. The injection was given in the evening, at least three hours after the last meal, and the patient was not permitted to leave his bed until the following morning, when, weather and the ocular disorder permitting, he was allowed to walk even out of doors; the injections were usually repeated daily. Among the 25 cases, no instance of collapse occurred; rigor once for ten minutes; slight nausea several times; vomiting only in one patient, who had taken food too recently, and not again when this had been avoided. Susceptibility to the drug differed in different individuals. A reduced susceptibility on repetition of the same dose ten days in succession was not observed; on the contrary, the later injections occasionally acted more powerfully. In syphilitic affections of the eye, it was used only when mercury and iodide of potassium had proved powerless; in one such case of syphilitic iritis, pilocarpin proved equally powerless; in two such cases of obstinate choroïdo-retinitis, a marked but only temporary increase of visual acuity occurred. Uremic amaurosis, which is, however, a cerebral and not an ocular malady, has been known to be removed by two pilocarpin injections. In four cases of retinitis albuminurica, a very striking and, to a certain extent, permanent improvement in sight was gained by about twelve injections, probably through removal of the infiltration of

the optic nerve and retina. In rheumatic eye-disorders it had not yet been used. In several cases of vitreous opacity from irido-cyclitis and irido-choroiditis, much improvement was gained. In cases of detachment of retina, some reabsorption of vitreous turbidity and improvement of sight was observed in six cases, but a reposition of the detached retina only in one. A case of long standing parenchymatous keratitis (hereditary syphilis) improved much after seven injections during ten days. In one case of neuro-retinitis of unknown origin, after perchloride of mercury had been used for fourteen days with little result, the retinitis disappeared entirely in three weeks, with great improvement in vision. In another instance, due probably to cerebral tumour, no benefit was gained. [For a previous record of cases of eye disease treated by jaborandi and pilocarpin, see an article by Landesberg in the *Archives of Ophthalm.*, vol. viii, p. 125.—*Rep.*]

8. *De Wecker on Nerve-Stretching applied to Ophthalmic Surgery.*—The author (*Klin. Monatsb. für Augenheilk.*, June 1881) hopes that the process of nerve-stretching, introduced into general surgery with such astonishingly good results by Professor Nussbaum, may be turned to account also in ophthalmic surgery. Having studied the relations of the optic nerve in the dead subject with regard to the mode in which it may most readily be stretched, he operated on the living as follows. The lids being widely separated, the conjunctiva is divided to an extent of two centimetres in a tangent to the inner corneal margin; the subconjunctival tissue is freely separated; the tendon of the internal rectus is taken up on a hook, carefully divided, and secured by means of a suture passed through it. Tenon's capsule is separated from the globe by means of a blunt spatula as far back as the insertion of the optic nerve; then, while the cornea is rotated outwards by means of fixation forceps, the optic nerve is secured by a strong strabismus-hook, and forcibly pulled forwards towards the front of the orbit. The traction must be tolerably energetic, and must enable the operator to reach the insertion of the nerve with his finger. The hook is then withdrawn, the divided tendon is secured to the conjunctiva by the suture already introduced, and an antiseptic dressing applied. The operation has been performed as yet only on blind eyes, the object being to ascertain its influence on the nerve-centres, and the extent to which 'hallucinations, pain, and so forth,' can be lessened by it. The results are to be communicated later.

PRIESTLEY SMITH.

9. *Emrys-Jones on the Treatment of Ophthalmia Neonatorum.*—Dr. Emrys-Jones (*Brit. Med. Jour.*, March 1881) gives the details of 420 cases presented for treatment at the Royal Eye Hospital, a large proportion of which had been under previous treatment. In 72, or nearly 18 per cent., the cornea was affected; in 38, both corneae were affected; in 34, one cornea was affected; in 16, both eyes were lost; in 21, one eye was lost; making a total of 53 eyes lost, or nearly 6 $\frac{1}{4}$ per cent. In 26 cases there were ulcers of the cornea; in 14 cases there was perforation, 6 with prolapse of the iris; in 16, there were large opacities; in 5, there were ulcers with lead deposits; in 4, there were ulcers with deposits of nitrate of silver. Dr. Emrys-Jones states that he had never seen a single case of uncomplicated ophthalmia neonatorum lost, where proper treatment was adopted early. He further points out that, after inquiry into the cause of blindness, in 72 cases examined for admission to Henshaw's Blind Asylum

24 of them were found to be due to this disease in infancy, and that 75 per cent. of all the blindness in this large asylum were due to preventable causes. After referring to Dr. de Wecker's method of treatment with 2 per cent. solution of carbolic acid, he details the method he found most efficacious, viz., brushing the palpebral conjunctiva over with weak solutions of nitrate of silver, grains 10, 15, or 20, to the ounce of water, by means of a camel's hair brush, and washing off the superabundant nitrate with a solution of salt and water.

10. *Rähmann on Amyloid Degeneration of the Conjunctiva.*—Rähmann (*Archiv für Augenheilk.*, Band x) says that the special amyloid formation in the conjunctiva is always preceded by a stage of hyaline degeneration. Amyloid formation in tumours is always accidental. It occurs only in an advanced stage of the formation of the tumours, and is then mostly secondary. It has no connection with the formation of trachoma in the conjunctiva. The tumours may be completely checked by a partial extirpation.

11. *Pagenstecher on the Extraction of Cataracts in Closed Capsule, with a Report of 117 Additional Cases.*—H. Pagenstecher (*Arch. für Augenheilk.*, Band x) performed extraction of cataracts in closed capsule after the method of A. Pagenstecher, in cataracts following irido-choroiditis, in over-ripe cataracts, and in Morgagnian cataracts. One hundred and seventeen cases in which this operation was performed are added to his report published in 1875; so that the total is now 353. Out of the 117 cases, the capsule burst four times; of the rest, 91 cases were not complicated, but 22 were considerably so. In the uncomplicated cases, full and more than full acuity of vision was obtained. Among these, there were 16 cases in which, during the operation, a loss of the vitreous humour occurred. In 37 cases only half the acuity of vision was restored; twenty times vision was equal to one-tenth; twice to one-twentieth; and once the number of fingers could be distinguished at the distance of four feet. In 4 cases sight was lost.

12. *Bull on Lacrymal Conjunctivitis.*—Dr. Bull (*Trans. of Med. Society of New York*, 1881) adopts the following method of operating on the lower canaliculus. The lid is drawn downward and outward as fully as possible, the probe-point of the knife is introduced perpendicularly into the punctum, with the cutting edge of the knife turned towards the ball; when the knife takes the horizontal position, the edge is turned still more towards the inferior *cul-de-sac*, and in this position is pushed along the canal as far as desired, and is made to cut out by moving the handle in an inward slightly upward direction. The result is a curved incision, the convexity of which is directed backward. The advantages of the method are that the tears are well carried off, the wound is hidden behind the margin of the lid, it serves well for probing, and has, perhaps in consequence of the free movement of one lip upon the other, less tendency to unite than the ordinary incision made with the 'sharp edge of the knife upwards'.

13. *Tartuferi on the Cell-Forms composing the Epithelium of the Tarsal Conjunctiva.*—*The Giornale Internazionale delle Scienze Mediche*, Fasc. 9, contains a carefully written article on this subject by Dr. Tartuferi. The author examined specimens of the conjunctiva from thirty individuals of all ages, and at periods varying from three hours to as many

days after death. He arrives at the conclusion, that the conjunctival epithelium consists essentially of three layers of prism-shaped cells with interspaces. The most superficial layer of the three is composed of prismatic cells, having oval or rounded and granular nuclei, varying in size from six to ten micromillimètres. This granular appearance he considers due to the reagents employed. The middle layer may be at times wholly absent. When present, it consists of fusiform, pyramidal, or polyhedral cells, with nuclei of from eight to fourteen micromillimètres in diameter. This middle layer the author has found to be best marked in very early life, when the cells are generally fusiform. The third, or deep layer, is composed of cells with round or oval nuclei, almost entirely destitute of protoplasm, and measuring from six to thirteen micromillimètres in diameter. These deeper cells the author considers represent the least mature form of the cell-element, as is proved by the large size of the nuclei, and the scantiness of the cellular substance. The cells in the middle layer are the links which connect the earliest and latest stages of epithelial evolution. In the superficial cells, perfect morphological differentiation is seen to terminate in involutionary change. The author believes that the great discrepancy in the views of various observers, as to the type of the epithelial cells of the conjunctiva, is best accounted for by supposing that their researches have been confined exclusively to the deep layer. The following is the method of preparing the conjunctiva for examination which the author recommends. The eyelids must be removed as soon after death as possible, and immersed in a solution (2 to 8 per cent.) of bichromate of potash. In this they may be allowed to remain during a period of from six days to four months. They should next be placed in a solution, either of gum arabic, or of gum tragacanth and glycerine in equal proportions. Very thin sections are then prepared, and immersed in a solution of sodic chloride, and finally transferred to a very dilute one of osmic acid, 1 in 5,000, 1 in 21,000, or 1 in 16,000. Specimens so prepared are best examined in glycerine. LITTON FORBES.

14. *Klem on a Pulsating Orbital Tumour.*—In the *Norsk Magazin for Lægevidensk.*, series 3, Band ix (abstract in *Nord. Medicin. Arkiv*, Band xiii), Dr. E. Klem describes a case of pulsating orbital tumour in a sailor, aged 25, produced by a kick under the upper border of the orbit eight months before he came under treatment. The skin over the left eye, in the frontal and temporal regions, was swollen; and both eyelids were blue. The eyeball was dislocated downwards, being turned somewhat inwards; its movements were limited. The optic media were clear. The papilla was pale, and presented minute arteries. There was no perception of light. When the eyelid was pressed, a pulsation synchronous with the heart-beat was seen and felt. It was strongest at the upper and inner part, where a sharply defined elastic swelling, as large as a hazel-nut, was felt and seen. There was a loud murmur, synchronous with the pulse. In other respects, the patient's health was good. He was put to bed, and, during five days, digital compression was applied, for thirty-five hours and a half in all, to the common carotid artery; this caused cessation of the murmur and pulsation. Five weeks later, the pain in the face, which the patient had felt, had almost disappeared, the protrusion was much diminished, the movements of the eye were free, and the tumour had diminished in size.

15. *Asplund on Meningitis after Enucleation of the Eyeball.*—Dr. M. Asplund relates in *Hygiea* for 1880 (*Nord. Medicin. Arkiv*, Band xiii) the case of a man, aged 28, who, three and a half months before his admission into the hospital at Göteborg, had been struck on the right eye by a splinter of a percussion-cap, which had been followed by pain and atrophy of the organ. When the eye was removed—which was done as a prophylactic measure, no sympathetic affection of the other eye having yet appeared—the splinter was found embedded in exudation behind the lens. No antiseptic precautions were employed during the operation. On the following day, the patient had severe headache and vomiting. These continued and increased; delirium set in, and he died nine days after the operation. The necropsy revealed purulent meningitis, mostly on the right side, where the whole base of the brain was implicated: there were small abscesses in the Sylvian fossa, and a thrombus in the right cavernous sinus. The optic nerve was unaltered; the divided part had nearly healed; there was no trace of suppuration.

16. *Agnew on Incision of the Lachrymal Sac.*—Dr. C. R. Agnew of New York says *Detroit Lancet*: The anatomy of the parts is about as follows. We have the eyelids covering the eyeballs, and towards their inner angle we have the puncta. Now, behind this angle, which is called the internal canthus, is the little gland called the caruncle, and, just in the crease between the caruncle and the angle of the eyelids, there is nothing between the external world and the cavity of the sac but conjunctiva and sac-wall. As the sac fills up with matter, its anterior wall is brought forward, the tendon of Horner's muscle is more or less stretched, and the sac bulges below and above it and is made prominent. Now, standing behind a patient who has such a lachrymal abscess, which you are not able to enter through the punctum, you may take Beer's knife, and, holding the head firmly, poise the blade of the instrument flatwise, so as almost to be in contact with the cornea, pass it behind the internal canthus behind the angle where the lids come together, carrying the point inwards, and enter the sac, reaching it by making a slight wound. This wound usually heals rapidly, does not interfere with the canaliculi, and, if it become fistulous, does no possible harm, because it is inside of the lids, and the sac empties itself inside, instead of outside upon the cheek. The sac having been emptied, it may be treated according to the indications.

17. *Fernandez on Amaurosis from Lesions of the Orbital Region.*—Dr. J. S. Fernandez, in a concise paper in the *Amer. Jour. of the Med. Sciences*, draws the following conclusions. 1. Amaurosis following wounds of the eyebrow is generally the result of cerebral lesion, as proved by the fact that the greater number of cases lose consciousness or die soon after the accident. 2. Although modern ophthalmological literature does not contain a single instance followed up from beginning to end by ophthalmoscopic examinations, two of my cases and Galezowski's observations go to show that amaurosis is due to atrophy of the papilla, and this to cerebral lesion of more or less severity, or to injury of the optic nerve in its passage through the optic foramen. 3. Those cases where the amaurosis is attributed to sympathetic action or excitability of the fifth pair of nerves, from whatever cause, occurred previously to the employment of the ophthalmoscope, and were open to erroneous interpretations. 4. The amauro-

sis occasioned by simple irritation of the supra-orbital nerve, from puncture, cicatricial distension, or any other cause, might at the present time be doubted, in the absence of a complete clinical record to support it; but inasmuch as sympathetic amaurosis from excitability of the maxillary branch of the fifth has been observed, the possibility of a similar result as regards the supra-orbital, one of the three principal branches of the trigeminal, cannot consistently be denied. 5. The entire identity between amaurosis from irritation of the superior maxillary and supra-orbital nerves once conceded, the prognosis must be considered equally favourable in either case; for amaurosis from wounds of the eyebrow, resulting in atrophy of the papilla, is incurable. 6. The experiments on dogs, inflicting divers traumatic lesions on the supra-orbital region, have not been followed by amaurosis. A. HENRY, M.D.

PHYSIOLOGY.

RECENT PAPERS.

1. MASON, W. P.—Hourly Variations of Urine. (*New York Med. Record*, 1881, p. 617.)
2. GUDER.—The Action of Quinine on the Healthy Human Ear. (*Di s.*, Berlin, 1880.)
3. MEKLARD.—The Action of Hydrate of Chloral on the Excretion of Sugar by the Urine. (*Archiv für Exper. Path.*, Band xii; *Paris M d.*)
4. HORVATH.—The Respiration of Hybernating Animals in Relation to Animal Warmth. (*Verhandl. des Phys.-Med. Gsell. in Würzburg*, Band xiv, Heft 1 and 2.)
5. BORN.—On Experiments as to the Development of the Sexual Differences. (*Breslauer Aerzt. Zeitsch.*, 1881.)
6. MOSSO.—Experiments on the Circulation in the Human Brain. (*Centralbl. für Neurologik.*)
7. RENZI.—Physiological Fine Crepitation. (*Virchow's Archiv*, Band lxxiii.)

1. *Mason on the Hourly Variations in Urine.*—Dr. William Pitt Mason (*New York Med. Record*, 1881, p. 617) has made some valuable observations on the hourly variations of the acidity, specific gravity, amount, and urea in the urine of a healthy man. Breakfast was at 8 A.M.; dinner at 1 P.M.; supper at 6 P.M. The examinations were made in cold weather. No great amount of out-door exercise was taken, but the subject was on his feet, engaged in active laboratory work, all day. The results are represented by the author in charts, but may be summarised. The curve of acidity rose slightly after breakfast, and fell at noon, then rose steadily to its maximum; at 3 P.M. it fell very low again; at 6 P.M., another rapid rise occurred, nearly equalling the last, reaching its maximum at 8 P.M., after which there was a steady fall to 11 P.M. The specific gravity varied less, falling, however, after breakfast, rising slightly after dinner, maintaining that rise towards night, with the exception of a drop from 7 to 8 P.M. The amount of urine reached its maximum at 3 P.M., rising to and falling after that time. The urea showed a rise about two hours after each meal, the maximum being at 3 P.M.

ROBERT SAUNDREY, M.D.

2. *Guder on the Action of Quinine on the Healthy Human Ear.*—P. Guder (Dissertation, Berlin, 1880) gives the results of experiments upon the action of quinine. One grammé of muriate of quinine reduces the temperature of the ear 0.56 deg. Cent. (about 1 deg. Fahr.) within from two to two and a quarter

hours. It lessens the capability of hearing a watch, or even ordinary conversation, within the same time. The author did not observe hyperemia of the exterior auditory canal, nor of the membrani tympani, as described by Roosa. On the contrary, he saw, while the action of quinine was at its height, a decrease in colour of the parts which had been red before. The temperature of the body falls in proportion to the temperature of the external auditory canal, 0.5 deg. Cent. (0.9 Fahr.) within an average of two and a half hours. There is no change of the pulse. Subjective sensations of hearing, disturbances of equilibrium, occurred in most cases after from one and a quarter to one and a half hours.

3. *Meklard on the Action of Hydrate of Chloral in the Excretion of Sugar by the Urine.*—F. Meklard agrees with the opinion of Mering and Musculus, that in animals under the influence of chloral the urine never contains sugar (*Archiv für Exper. Path.*, Band xii, and *Paris Méd.*). He injected under the skin of a dog a certain quantity of hydrate of chloral, and then made a puncture in the fourth ventricle. The urine examined never contained sugar. In another animal he first made the puncture; there was then glycosuria; he then injected chloral, and the sugar disappeared. If the vagus were divided at the level of the neck, and the central end were excited, reflex glycosuria was produced; but this latter phenomenon did not show itself in chloralised dogs. In the same way, the urine did not contain sugar in a dog which had breathed carbonic oxide, but which had first absorbed five grammes of chloral. This manifest action of chloral on the excretion of sugar has been similarly applied to the human subject. In a diabetic patient who was placed under its influence, a diminution in the quantity of the urine, and of the sugar contained in it, was noted. In a second patient, it was simply observed that the quantity of urine had greatly diminished.

4. *Horvath on the Respiration of Hibernating Animals in relation to Animal Warmth.*—Observations have shown that the temperature of marmots, on awakening from their winter sleep, rises within half an hour from 62 deg. Fahr. to 89 deg. Fahr., notwithstanding that the surrounding atmosphere has a temperature not higher than 50 deg. Fahr. Also, it was observed that the number of respirations of the awakening animal was fewer than when it was quite awake, a fact which would seem to imply that the chemical metamorphosis of carbon and oxygen is not the cause of this rapid rise of temperature. Again, it could not be attributed to the heat consequent on muscular waste, for the movements at this time are extremely weak. The probability, therefore, seemed to arise that there is another source of animal warmth unknown to us, and this a source of very considerable power. The question which Dr. Horvath has set before himself is, Are the products of combustion during this great rise of temperature sufficient to account for it? (*Verhandl. der Physik.-Med. Gesellsch. in Würzburg*, Band xiv, Heft 1 and 2). To settle this question, he obtained a large supply of hibernating animals for observation and experiment. The two species mainly used were *Spermophilus guttatus* and *Myoxus dryas*, and in both the above rapid rise of temperature was verified both as to amount and to rapidity. Then came the analysis of the air breathed by these animals. For certain reasons, Dr. Horvath could not carry this out with Regnault's respiration apparatus as it

ought to have been. The animals were kept for a certain length of time under a hermetically closed glass-shade of known dimensions, and the amount of change produced in the air during this space of time was calculated by transferring a portion of it to a eudiometer. The animals were in various conditions, asleep, awake, or awakening, and their temperatures were measured in the rectum with the same thermometer passed to the same depth. As the observations were made mainly in relation to the rise of temperature, the excretion of carbonic acid and consumption of oxygen were the points mainly observed. Every precaution was taken in weighing the animals, measuring the three glass shades used, mixing the air in the shades with a magnetic feather, etc.; and Dr. Horvath records 135 most carefully performed experiments. As he considers his experiments still incomplete, he draws no conclusions from them, but promises further communications on the subject. We may quote the following as examples of the experiments. 1. A wake marmot (168 grammes weight) was kept two hours in a glass-shade (6,829 cubic centimetres of contents), after which the air contained in the shade had, at 51.8 deg. Fahr., and with the barometer at 30 inches, 9.99 per cent. of carbonic acid and 8.06 of oxygen. 2. A sleeping, i.e., a hibernating marmot (162½ grammes in weight) was kept for 24 hours in a glass-shade (3,533 cubic centimetres), at a temperature of 42.8 deg. Fahr. During this time the animal breathed 3 to 4 times per minute, and showed at the end a rectal temperature of 42.8 deg. Fahr., the same as the surrounding atmosphere. The air in the shade contained 1.53 per cent. of carbonic acid, and 16.38 per cent. of oxygen. 3. A waking marmot (156 grammes in weight) was kept an hour in a glass-shade (3,533 cubic centimetres). The surrounding temperature was 51.8 deg. Fahr., the rectal temperature at the beginning 60.8 deg. Fahr., at the end, 87.8 deg. Fahr. The air in the shade contained 11.45 per cent. of carbonic acid and 6.48 of oxygen. When a large glass-shade is used, the liability to error from multiplication of a small mistake is considerable; while, again, if a small shade be used, it may readily be said that the animal suffers from carbonic acid poisoning. Hence Dr. Horvath used several different shades, and modified also the other experimental conditions.

5. *Born on Experiments as to the Development of Sexual Differences.*—These experiments (*Breslauer Arztl. Zeitschrift*, 1881) were performed on frogs, for the reason that artificial impregnation by the method long since described by Spallanzani can be readily employed with them, also because their young are easily reared. The impregnated eggs were kept in different aquaria, provided with fresh water and with either vegetable or animal food. In neither case, however, was the food what Leydig considers the suitable food for tadpoles, namely, slime containing organic particles. So soon as the sex could be distinguished by the microscope, the tadpoles were killed and examined. Of 1,272 such, 95 per cent. were female; while, in a large number of frogs caught and examined, the numbers of male and female were very nearly equal. The author attributes this great difference to the unsuitable food provided. He seems entirely to overlook the artificial impregnation, one part of which consisted in making certain that an overplus of spermatozoa penetrated the gelatinous covering. Until it can be shown that unsuitable food will produce a similar result with eggs naturally impregnated, it cannot be said that the theory has been upset of a potency to develop

into male or female inherent either in the egg, in the spermatozoa, or in the mode of impregnation.

6. *Mosso on Experiments on the Circulation in the Human Brain.*—The subjects of these experiments (*Centralb. für Nervenheilk.*, etc.) were three: 1. A woman in whom, from syphilitic disease, almost the whole of both parietal bones were necrosed; 2. A boy in whom a severe wound in the temporoparietal region had left a defect in the skull two inches in diameter; 3. A case in which a blow on the forehead caused a fracture, leaving a defect one inch in diameter. The cerebral movements could very easily be taken in these persons with simple apparatus, and usually the pulse-movements of the forearm were taken at the same time with the hydro-sphygmograph. During any mental action, such as multiplication, or excitement, as in repelling an accusation, the height of the cerebral pulsations was very markedly increased. To exclude the fallacy of this increase being possibly due to alteration of the respiratory movements, from the attention being bent on the experiment, the respiratory movements were taken at the same time. It was found that very frequently an increase of the cranial pressure took place with no alteration of the respiration. The respiration ought also to affect the circulation in the forearm as well, but generally the increase of cranial pressure was accompanied by a decrease in the arm volume. At the moment of awakening from sleep, there is a decrease of the intracranial pressure, so that the amount of blood then in the brain is less than during sleep, and thus the brain can scarcely be said to be in an anemic condition during sleep. In sleep, even a slight call or any other stimulus, without wakening the person observed, will raise the intracranial pressure. Normally, there is no alteration in the amount of blood contained in the cranium. During diastole more blood enters the arteries, and thus the intracranial pressure rises, but at the same time the veins are compressed and emptied, so that from the sinuses a pulse-curve similar to that of the arteries is obtained. Normally, there is no interchange of the cerebro-spinal fluid in the cranial cavity and the spinal canal, although no doubt the pressure of that fluid sinks in inspiration and rises in expiration.

7. *Renzi on the Physiological Fine Crepitation.*

—Professor Renzi has for several years been in the habit of describing this crepitation in his lectures. He first observed it in a robust individual who wished to insure his life. Hearing this fine crepitation above the clavicle, Professor Renzi deferred his opinion until he should have made a second examination. He found no change, however, and two years thereafter the person was still in rude health. He points out various characteristics of the crepitation (*Virchow's Archiv*, Band lxxxiii, Heft 3, 1881). 1. It is an uninfrequent phenomenon, often not occurring once in a hundred cases. 2. It is not voluntary; it does not exist in ordinary normal respiration, but only during the first few inspirations. 3. It is most distinct at first, not to be distinguished from the fine crepitation of acute pneumonia, but it disappears very quickly, and is not audible with the later inspirations. 4. The most common site is the hollow above the clavicle. Professor Renzi has never heard it posteriorly. He attributes it to a slight degree of atelectasis in that part of the lung. As is the case with the fine crepitation of pneumonia, it is heard only during inspiration, like the rubbing of a lock of hair between the fingers close to the ear. It is,

however, not heard where the pathological fine crepitation occurs; it gradually diminishes with deep respirations till it disappears; and, lastly, it is accompanied by none of the other symptoms of pneumonia.

JAMES ANDERSON, M.D.

OBSTETRICS AND GYNÆCOLOGY.

RECENT PAPERS.

1. BREISKY.—On Intra-uterine Local Treatment of the Puerperal Fever. (*Zeits. für Heilkunde*, 1880, 3 and 4 Hft.)
2. COHNSTEIN.—On Temporary Dilatation of the Vaginal Canal. (*Archiv für Gynäk.*, Band xvii, Heft 3, p. 504.)
3. DORAN, ALEAN.—Hydroperitoneum resulting from Oophoritis. (*Brit. Med. Jour.*, Oct. 29, 1881.)
4. EICH, A. F.—The Differential Diagnosis of Abdominal Tumours.
5. GOTH, E.—Pigment Sarcoma of the External Female Genital Organs. (*Centralb. für Gynäk.*, 1 Oktober 1881.)
6. LAHS.—On Axis Traction-Forceps. (*Ibid.*)
7. MANGIAGALLI.—Five Years' Report of the Obstetric Clinic of Milan. (*Annali di Ostet., Ginecol., e Pediat.*, Settembre 1881.)
8. MARCHIONNESCHI, O.—Pregnancy and Parturition in Kickety Pelves. (*Ibid.*)
9. MARTIN, A.—Contribution to Emmet's Operation for Lacerated Cervix. (*Wiener Med. Woch.*, 6 August 1881.)
10. MUNDÉ, PAUL.—The Curability of Uterine Displacements. (*Amer. Jour. of Obstet.*, October 1881.)
11. OPIE, THOMAS.—Twenty-seven Cases in which the Intra-uterine Douche was used. (*Maryland Med. Jour.*, 1881.)
12. POULLET.—Fœtal Hydrocephalus in Relation to Pregnancy and Parturition. (*Thèse*, Paris, 1880.)
13. PUECH, ALBERT.—Purpura Hemorrhagica in Relation to Menstruation and Pregnancy. (*Annales de Gynéc.*, Octobre 1881.)
14. STOCKER, S.—Thrombus Vagine. (*Korrespondenzblatt für Schweizer Aerzte*, No. 13, 1881.)
15. WELLS, SPENCER.—Porro's Operation. (*Brit. Med. Jour.*, Oct. 29, 1881.)
16. WITZEL.—First Report of Dr. Guserow's Polyclinic at the Royal Charity Hospital, Berlin. (*Berliner Klin. Woch.*, Nos. 28 and 29, 1881.)

3. *Doran on Hydroperitoneum from Oophoritis.*—E. M. single, aged 23, was admitted into the Samaritan Hospital with ascites. She was tapped, and four and a half gallons of fluid were removed. A week later, the abdomen again enlarged. As the cause of the reappearance of the ascites was obscure, Dr. Bantock made an exploratory incision, when he found all the abdominal viscera healthy except the ovaries, which presented an irregular, hard, and warty appearance. The ovaries were therefore removed. Menstruation had commenced at fifteen, and continued with regularity for two years, when it ceased, and had not recurred during six years. This led to a suspicion of ovarian disease as a cause of the ascites. The ascites has not returned since the operation of oöphorectomy. Mr. Doran found that the right ovary measured one inch and five-eighths; the left, one inch and three quarters. In both, the external and internal appearances were similar. The tunica albuginea was pinkish. On section, the whole of the central portion of the stroma was found to have broken down, apparently by mucoid degeneration, leaving a cavity, in which, in the right

ovary, about a dozen Graafian follicles projected like a row of pearls. They were readily detached from the very soft stroma around their outer part, and all that were opened contained perfect ova, with the germinal spot and vesicle well-marked. In the left ovary there were very few such follicles; the central softening was less marked. In both, the stroma immediately under the albuginea was unusually tough.

4. *Erich on Differential Diagnosis of Abdominal Tumours.*—Dr. Erich relates some cases illustrating the value of aspiration before concluding the diagnosis in abdominal tumours. He thinks it advisable to use the aspirator in all cases of doubtful abdominal tumour before pronouncing definitely upon its nature.

10. *Mundé on the Curability of Uterine Displacements.*—The author is of opinion that recent displacements of any variety are the only cases which offer a fair chance of recovery by any of the mechanical means at our disposal. Of these means, pessaries are the most convenient for temporary relief, but only in a comparatively small number of cases does permanent cure result. The best curative means of support of the displaced uterus is probably the systematic and intelligent use of vaginal tampons, impregnated with a mild astringent solution. Posture, while excellent as a means of relaxing the uterine supports and relieving pelvic congestion, is by its inconvenience, at best a temporary relief. Permanent relief—cure—can be expected and will be obtained only when the displacement is of recent origin, especially when it has been produced by some sudden physical shock; or when the complete tissue metamorphosis accompanying puerperal involution aids in restoring the uterine supports and the uterus itself to their original and healthy tone. This fortunate occurrence must be looked upon as decidedly the exception; since the favouring circumstances above mentioned are but rarely met with, or the displacement is seldom recognised at a sufficiently early date to permit of a perfect restoration to health. The most favourable period, therefore, for the treatment of a uterine displacement or distortion, with the view to a permanent cure, is within one or two weeks after delivery, before the woman has left her bed. The protracted wearing of astringent vaginal tampons, introduced daily, offers for some cases of ante- and retro- displacement, an excellent, and for most cases of procidentia, almost the only efficient and safe remedy for the displacement, far superior to all steadily worn hard or soft pessaries. A procidentia of uterus or vagina may even be cured by several months of this treatment, if the affection be not of too long standing. While permanent cure is only occasionally met with, so much relief is afforded by pessaries and the other mechanical supports and methods above discussed that they should in no case be discarded unless all treatment be counterindicated. For prolapsus uteri et vaginae, unless of quite recent origin, an operative constriction of the vaginal canal and a restoration of the relaxed or destroyed perineum to its normal state is the only sure means of cure, and even for this affection the unfailling method remains still to be discovered. The cure of a flexion by operative treatment is impossible; the canal may be made comparatively straight by a division of one or the other or both lips of the cervix, but the flexed shape of the organ still remains. Only by gradually increasing elevation of the fundus by a vaginal pessary, after delivery, or by the protracted

wearing of an intra-uterine stem, can in a small proportion of cases a permanent cure be effected.

13. *Puech on the relation of Purpura Haemorrhagica to Menstruation and Pregnancy.*—Dr. Puech relates several cases, and draws the following conclusions. 1. Purpura haemorrhagica occurs more frequently in women than in men. 2. It has a definite action on the uterus, whether gravid or not. 3. Its effects upon the non-pregnant uterus are three: *a*, it may cause the suppression of menstruation and supplant it by the periodical return of its manifestations; *b*, it may give rise to menorrhagia; *c*, it may produce metrorrhagia. 4. In pregnancy, purpura has a tendency towards producing abortion or premature labour. 5. The prognosis should always be extremely reserved. In general, purpura is more dangerous in women than in men, and during pregnancy the disease is more dangerous than in the non-pregnant state. 6. Metrorrhagia is more unfavourable in prognosis than menorrhagia.

14. *Stocker on Thrombus Vaginae.*—The patient, a multipara, had a natural labour. Immediately after the delivery of the placenta, a tumour of the size of a foetal head, smooth and painless, was felt proceeding from the right side of the anterior vaginal wall and extending down into the cellular tissue of the right labium majus. There were no varices. Expectant treatment was adopted. On the fourth day the tumour burst while the patient was sitting up in bed to have some carbolic oil applied between the labia. Recovery was rapid.

15. *Wells on Porro's Operation.*—On Friday, Oct. 21st, Mr. Spencer Wells performed Porro's operation on a patient aged 37, between five and six months advanced in pregnancy, and suffering from epithelioma of the cervix uteri. This is the first time the operation has been performed in England and the first instance in which the operation has been performed on account of malignant disease of the uterus. As in this instance there was malignant disease of the cervix, Mr. Wells added the operation of Freund and removed the entire uterus, dissecting it off from the posterior wall of the bladder. During the dissection of the cervix from the bladder, a small rent was made into the uterine cavity; the liquor amnii escaped, and the foetus, which measured 10¼ inches, and weighed 14 ounces, was extracted, and the umbilical cord divided, the placenta being left in the uterus. The foetus only made three or four respiratory efforts. The opening from the peritoneal cavity into the vagina was closed with silk sutures. When last heard of on Thursday, Oct. 27th, the patient was progressing favourably. FANCOURT BARNES, M.D.

TOXICOLOGY AND FORENSIC MEDICINE.

RECENT PAPERS.

1. HURFY.—Death from Hanging. (*Ann. d'Hygiène*, October 1881.)
2. GALIPEE.—Supposed Poisoning by Copper. (*Gaz. des Hôp.*, 1881, p. 796.)
3. BAUER.—On Duboisine. (*Schmidt's Jahr.*, Band 189.)
4. BROUARDEL and L'HÔTE.—Poisoning by Potassium Chlorate. (*Ann. d'Hygiène*, 1881, p. 232.)
5. WALL.—On Snake-Poisons. (*Proc. Royal Society*, vol. xxxii, p. 333.)

6. SACERDO FILHO.—Rattlesnake Poison. (*Archiv. do Museu Nacional do Rio de Janeiro: Nature*, Oct. 20.)
7. BIEFFEL and POLECK.—Poisoning by Choke-Damp and Coal-Gas. (*Jour. of Chem. Soc.*, 1881, p. 853.)
8. USSIKOWSKI.—Sulphide of Arsenic. (*Jour. pour Chem.*, vol. xxi, p. 323; *Jour. of Chem. Soc.*, 1881, p. 123.)
9. SEIMI.—Arsenic in the Urine after Poisoning. (*Jour. of Chem. Soc.*, 1881, p. 311.)
10. LUDWIG.—The Localisation of Arsenic. (*Med. Jahr.*, 1880; *Zeit. für Anal. Chem.*, 1881, p. 608.)

1. *Hurpy on Death from Hanging.*—Hurpy gives (*Ann. d'Hygiène*, Oct. 1881, p. 359, an interesting description of the position of the body of an old woman who died indubitably from hanging, which was no doubt suicidal. The body lay prone on the floor, a cord with a running noose passing round the neck, and being attached to the leg of a low table, at the height of 16 inches from the floor. The cord formed the hypothenuse, and the leg of the table and the floor the two equal sides of a right angle triangle, the sides of which measured respectively 16, 12, and 16½ inches approximately. It is remarkable that the deceased should have been able to exert sufficient tension upon the cord to effect self-destruction.

2. *Galippe on Supposed Poisoning by Copper.*—M. Galippe (*Gaz. des Hôp.*, 1881, p. 796) criticises some supposed cases of poisoning by Saint-Honoré cream, a Parisian delicacy prepared by whipping up eggs in a copper vessel, sometimes with the addition of a little alum. The toxic symptoms were attributed to the contamination of the cream with copper, in consequence of the use of a vessel made of that metal. M. Galippe, whose views as to the innocuity of copper are well-known, ridicules the notion that the symptoms exhibited by the patients were due to the ingestion of copper, and attributes them with, as he thinks, greater probability, to ptomaines. Indeed, M. Galippe seems inclined to think that most cases of supposed copper poisoning are really cases of poisoning by ptomaines. No analysis of the cream appears to have been made in the above cases; so that the respective views entertained by M. Galippe and his opponents, with reference to these particular cases of poisoning, can neither be established nor refuted.

3. *Bauer on Duboisine.*—Dr. Bauer (*Schmidt's Jahr.*, Band 189) has noted the physiological and toxic effects of duboisine upon himself. His observations confirm the statement of Ladenberg that duboisine is analogous to, if not identical with, hyoscyamine. Physiologically, Bauer finds their actions to be identical.

4. *Brouardel and L'Hôte on Poisoning by Potassium Chlorate.*—Brouardel and L'Hôte (*Ann. d'Hyg.*, 1881, tome ii, p. 232) detail five interesting cases of deaths in children through the administration of excessive doses of this salt. About a drachm appears to be a fatal dose for an infant two or three years of age. The absolutely fatal dose depends very much, however, on the mode in which the salt is administered. The symptoms manifested were, cutaneous affections—violet blue patches on the surface of the body—a form of cyanosis; gastrointestinal troubles—not always manifested, however—such as diarrhoea, and vomiting of greenish matter; diminution and even suppression of the urine, and nervous affections, such as collapse and coma.

5. *Wall on Snake-Poisons.*—Hitherto no clear distinction has been recognised to exist between the actions of the poisons of the various species of

venomous reptiles. Dr. Wall (*Proc. Roy. Soc.*, vol. xxxii, p. 333) has recently investigated the symptoms produced by these poisons in order to detect possible differences, and to see if the poisonous agents can be classified according to their physiological effects. As poisonous snakes may be simply classified into colubrine and viperine, one member of each class was taken for experiment—the cobra *naja tripidans*, as the best known of the colubrine, and daboia or Russell's viper (*daboia Russellii*) as the best known, and an extremely deadly member of the Indian viperine family. His conclusions are as follows. The regular course of the symptoms of cobra poisoning is slowly advancing paralysis, coming on after a well-marked interval without symptoms, with special paralysis of the lips, tongue, larynx, and pharynx, and complete destruction of the respiratory function. Death is often attended by convulsions, which depend on asphyxia. Cobra poisoning very quickly destroys respiration; after slight acceleration the respiration becomes slower, and the excusur is lessened. The effects of cobra poison on the pupil is so small as to be a matter of doubt. Salivation is a constant symptom. The effect on the blood is not great, sanious discharges are rare, albuminuria has not been observed, and should the patient not die from paralysis, recovery is perfect and complete, no symptom being left in a few hours. Daboia poison commences its action by inducing violent general convulsions, which are often at once fatal, or may be followed immediately by paralysis and death, or may also be for a short time recovered from, paralysis and death following later. These convulsions do not depend on asphyxia, and they may be absent if only a small quantity of poison has been injected. The paralysis that succeeds is general, and lasts a considerable time before respiration is extinguished, and there is no special paralysis of the lips, tongue, larynx, and pharynx as in cobra poisoning. Birds and reptiles die at once in convulsions. Daboia poison at first quickens the respiration very much more than cobra poison does, and the lessening of the excusur, and the retardation of the respiratory movements do not occur so soon. In daboia poisoning sanious discharges are the rule; albuminuria is always found, should the victim live any time, and after the nerve-symptoms pass over, the subject has to go through a period of blood-poisoning little, if at all, less dangerous than the primary symptoms, from which he may die as late as the end of the second week. The physiological properties of daboia poison undergo great change by its being heated to 100 deg. Cent. 212 deg. Fahr., in solution, whereas cobra poison remains unaltered.

6. *Sacerdo Filho on Rattlesnake Poison.*—Dr. Sacerdo Filho has published the results of his experiments on the poison of the rattlesnake, *Crotalus horridus* (*Archivos do Museu Nacional do Rio de Janeiro, Nature*, Oct. 20, 1880). 1. The poison of *Crotalus horridus* acts upon the blood by destroying the red blood corpuscles, and by changing the physical and chemical quality of the plasma. 2. The poison contains some mobile bodies similar to the micrococcus of putrefaction. 3. The blood of an animal killed by the snake's bite when inoculated to another animal of the same size and species, causes the death of the latter within a few hours, under the same symptoms and the same changes of the blood. 4. The poison can be dried and preserved for a long time without losing its specific quality. 5. Alcohol is the best antidote to the

poison of *Crotalus horridus* known until now. The publication of the above was followed by a series of letters in the *Times*, averring that the injection of permanganate of potash into the blood is an effectual cure for the bite of those Brazilian snakes. The writers appear, however, to be ignorant of the experiments of Sir J. Fayer and Dr. Brunton demonstrating the powerlessness of that salt as an antidote.

7. *Biefel and Poleck on Poisoning by Choke Damp and Coal Gas*.—Biefel and Poleck (*Dingl. Polyt.*, tome 240, p. 199; *Journ. of Chem. Soc.*, 1881, p. 853) have investigated poisoning by these gases, and made analyses of poisonous gaseous atmospheres. The air of rooms in which chafing dishes had been exposed was analysed. It was found that the composition of the gas was characterised by the fact that in all cases the proportion of carbonic acid to the amount of oxygen was altered at the expense of the latter, and that the corresponding quantity of air is mixed with a changeable percentage of carbonic oxide. A weak rabbit died when 0.2 per cent. by volume of carbonic oxide was present; others required 0.3 per cent. With coal-gas poisoning, the conditions appear to be different. The air is not deprived of oxygen, and the proportion of the latter to the nitrogen is not altered chemically, but merely by being expelled as the gas flows in. Carbonic oxide may be present to the amount of 0.5 per cent. in air containing illuminating gas before it acts fatally. The limits within which certain quantities of carbonic acid can be inhaled without proving fatal, appear to be larger with common gas poisoning than with choke-damp poisoning. When pure carbonic oxide was introduced into the air to be inhaled, 1.02 per cent. of carbonic oxide could be borne for a short time. Experiments with pure carbonic acid showed that when 6.7 per cent. are present, the animal operated upon becomes feeble, but quickly recovers in air; with 50.4 per cent., however, death resulted. The fatal action of sulphuretted hydrogen is important, inasmuch as its presence in impurified coal-gas—as in gas-works—and in the gases in mines and sewers, is a frequent occurrence. Death follows after exposure to air contaminated with 0.05 per cent. in eighty minutes, the symptoms differing from those with choke-damp. In passing through layers of earth, coal-gas was found to lose about 75 per cent. of its heavier hydrocarbons, and with them the vapours of tar ingredients, which impart to gas its odour. Hence it was observed that the escaping gas had almost entirely lost its characteristic smell. The carbonic acid was increased 25 per cent. by passage of the gas through the soil.

8. *Ossikovsky on Sulphide of Arsenic*.—It is generally supposed that arsenious sulphide whether chemically precipitated, or as orpiment, is non-poisonous, on account of its insolubility. Ossikovsky (*Jour. pour Chem.* [2], Vol. 22, p. 323; *Jour. of Chem. Soc.*, 1881, p. 123) has investigated this question, in consequence of a case having occurred in which food containing arsenious sulphide was suspected of causing poisoning. Commercial orpiment is known to contain arsenious acid as an impurity. Ossikovsky arrives at the following conclusions from his own experiments. 1. During the decomposition of organic bodies, easily oxidisable bodies are oxidised, and pure arsenious sulphide, under such circumstances, is converted into arsenious acid, and, to a small extent, into arsenic acid. The precipitated sulphide undergoes oxidation more readily than orpiment. 2. In cases of poisoning by arsenious sulphide, the oxidation products appear more or

less quickly, according to the nature of the decomposing body; the presence of water, and heat, also exert much influence. 3. The quantity of oxidation products is directly proportional to the duration of the decomposition; hence it becomes impossible to determine whether sufficient arsenious acid was present to prove fatal at the time the food was taken, when the suspected article has been submitted to examination after a considerable interval.

9. *Selmi on Arsenic in the Urine after Poisoning*.—Selmi (*Jour. of Chem. Soc.*, 1881, p. 311, from an Italian journal) has undertaken experiments to ascertain in what state arsenic occurs in the urine of animals poisoned with arsenic. Arsenic was given to a large dog, in doses too small to produce fatal results, and the urine was examined from time to time. It was found that during the first period of three days, the urine contained an acid of arsenic precipitable by baryta, and another arsenical compound which was not precipitated by baryta; in the second period of five days, the same substances were found, besides a basic volatile arsenic compound; whilst, subsequent to this, the arsenical base entirely disappeared from the urine.

10. *Ludwig and others on the Localisation of Arsenic*.—Ludwig has studied the question of the localisation of arsenic (*Med. Jahr.*, 1880; *Zeit. für Anal. Chem.*, 1881, p. 608). The following is a résumé of his results. In cases of acute, as well as of chronic arsenical poisoning, arsenic is taken up by the bones in small, yet distinctly recognisable quantities. If the case be not fatal, the poison may be detected in the bones a long time—twenty-seven days—after the last administration; in one case it had not disappeared on the fortieth day. It is noteworthy that the liver still contained arsenic. In the brain, in cases of both acute and chronic poisoning, only a small quantity of arsenic is to be found; whilst the liver and kidneys contain a relatively large amount. In acute cases, the kidneys may even contain more than the liver. The muscular tissue contains only a small quantity, but always more than the brain. Arsenic is found in the liver for a longer period than in any other organ. These observations of Ludwig have been confirmed by those of Bergeren, Delens, and l'Hôte (*Ann. d'Hyg.*, 1880, tome iii, p. 23), who found seven times as much arsenic in the liver as in the brain. The kidneys and muscular tissue they also found to contain more of the poison than the brain. Hemberg, also, has arrived at the same conclusions as Ludwig. The assertions of Scolosubuffi, which have never entirely received the assent of chemists, that in arsenical poisoning the metal is stored up in the brain, are reported. Johnson and Chittenden, who, in conjunction with Donaldson, have improved the methods for the detection of arsenic (*Chem. News*, Vol. 43, p. 21), also found a mere trace of arsenic in the brain of a dog, to which 100 grains of solid white arsenic was given in eight days, the dose being gradually raised from 1½ grain to 38 grains *per diem*. The dog was killed twenty-four hours after the last dose. Chittenden and Donaldson recommend Gautier's method of destroying the organic matter, based upon the older methods of Orfila and Filhol, consisting of successive oxidations, with nitric and sulphuric acids, at elevated temperatures. They use, however, a much lower temperature than Gautier. W. Fresenius (*Zeitschr. für Anal. Chem.*, 1881) points out the indispensable necessity of observing all the precautions originally prescribed by Fresenius and Babo, in carrying out their well known method for the

detection of arsenic. The neglect of these precautions, by diminishing its sensibility, has led to the disparagement of the method by many chemists. Very few, even of the best text-books, describe the process correctly. THOS. STEVENSON.

REVIEWS.

A Practical Treatise on Nasal Catarrh. By BEVERLEY ROBINSON, A.M., M.D. Paris, Lecturer on Clinical Medicine at the Bellevue Hospital Medical College, New York, etc. London: Sampson Low, and Co. 1881.

THIS work, which is an essay on the catarrhal affections of the nose, contains many useful therapeutic hints, but we fear it is rather too long to be widely read by the busy practitioner of medicine. 'I have not attempted,' says the author, 'to make it learned in bibliographical research; indeed, to some methods of treatment adopted by others I have not even referred. I have wished especially to write a succinct though complete account of personal experience and convictions, and thus, if possible, render it valuable as a practical guide to others.' To these lines the author has fairly adhered. We do not, however, think it was necessary to devote four chapters to the anatomy and physiology of the nasal cavities, to the instruments used in the diagnosis and treatment of nasal affections, and to the method of posterior rhinoscopy. Similar chapters are published on these subjects in most of the works on the nose and throat, and must be sufficiently familiar even to those not engaged in these specialities. Passing over the preliminary chapters, we find the author treating of acute and chronic coryza, hypertrophy of the turbinated bones, and follicular disease of the naso-pharyngeal space. By hypertrophy of the turbinated bones the author means hypertrophy of the mucous membrane only, actual hypertrophy of the bones themselves being exceedingly rare. In severe cases, Dr. Robinson recommends the evulsion of portions of the hypertrophied mucous membrane covering the bones, a mode of treatment which has found favour of late with many other American practitioners. In the treatment of follicular disease, he speaks highly of the good effects of cubebs administered internally, when the catarrh does not depend on any specific taint. He thinks that cubebs is in part eliminated by the glands of the throat and nose, and that under the influence of this medicine their secretion loses its acrid qualities and becomes less in quantity. Ammoniacum and sulphur administered internally are also highly recommended. For the fetid odour of the breath, so annoying to the patient in this disease, small doses of salicylic acid are given.

The above are a few of the points of special interest in the book; but there are several others to which, did space permit, we should be disposed to call attention. The book may safely be recommended to those who have hitherto given but little time to the subject. It will, moreover, doubtless repay perusal by those who have made affections of the nose their special study, containing as it does much practical information based upon personal experience.

The Works of Abraham Colles, with Memoir and Annotations. By ROBERT McDONNELL, M.D., F.R.S. London: The New Sydenham Society.

DR. McDONNELL, in his preface, confesses that he has undertaken a difficult task in introducing comments and annotations on writings which now form

part of the classical literature of Surgery. He has, therefore, wisely decided to present them almost in their original form, with only such few observations as seem to be urgently demanded.

He gives us a very interesting sketch of Colles's life, from his boyhood onward. When only a school-boy, Colles accidentally picked up a treatise on Anatomy, which had been washed down by a flood; and the perusal of this work first inspired him with a passion for the medical profession. He studied in Dublin, Edinburgh, and London, and finally settled in the first-named city, where he obtained eventually the Presidency of the Royal College of Surgeons of Ireland. The following extracts from Colles's diary may interest young surgeons, fresh from the schools, as showing the progress of his income during the first few years of his career:—'In 1798, sum total of fees received, £8 10s. 9½d. . . . In the following year, £178 4s. 4½d. . . . In the third year, £227 10s.; in the fourth year, £421 7s. 6d.' His income then increased rapidly, till it reached the large amount of £6,000 a year.

The greater part of the book is taken up with Colles's writings on venereal disease, on the administration of mercury, and on syphilis in infants. His careful observations and methodical noting of symptoms did much towards furthering the knowledge of venereal disorders, while in the treatment of syphilis he introduced a very wholesome reform. He strongly advocated small doses of mercury, instead of the large ones which it was then the custom to give. However, what even he thought a small dose we should think rather a strong measure, e.g., five grains of pilula hydrargyri three times a day.

Dr. McDonnell sums up Colles's principal discoveries on this subject under three heads.

1. He establishes the opinion that secondary symptoms are capable of propagating the venereal disease.

2. While showing that a child may receive the infection of syphilis by sucking a nurse affected with secondary symptoms, he cannot recollect a case in which the diseased nurse infected the child unless she had an ulceration of the nipple.

3. He makes the important generalisation which Hutchinson has termed Colles's law that a father cannot transmit syphilis to his offspring without implicating its mother.

Colles also draws a distinction between the local ulcer and the infecting chancre, contrary to the teaching of Hunter and other authorities of the period.

The book ends with Colles's well-known article, first published in the *Edin. Med. Jour.*, on the fracture of the lower end of the radius, now called 'Colles's fracture'. This is followed by a short dissertation on the cause of the attendant deformity, by Dr. McDonnell, with extracts from various writers on the subject. The works of Colles will occupy a leisure hour pleasantly for anyone interested in the history of Surgery, and particularly of the treatment of syphilis. Dr. McDonnell's annotations are not numerous, but they are concise and to the point.

F. ST. GEORGE MIVART.

A Treatise on the Diseases of the Nervous System. By JAMES ROSS, M.D., M.R.C.P., Assistant-Physician to the Manchester Royal Infirmary. London: Churchill. 1881.

THIS work consists of two large volumes, containing upwards of 1,500 pages. Neurology has advanced so

rapidly within the last few years, and continues to make such great progress, that the size of the work ought to cause us no surprise. We are so accustomed to receive our knowledge of nervous diseases in driplets, that, when we are presented with the accumulated result, the product of busy minds throughout the world, we are better able to realise the growing importance of the subject. We are reminded, also, how much farther the controlling influence of the nervous system extends than was formerly supposed. Dr. Ross has done good service in supplying the profession with what has long been a *desideratum*—a comprehensive, lucid, and practical, as well as scientific text-book of neurology.

The anatomy and physiology of the nervous system has received from Dr. Ross the attention which it deserves, and those who wish to obtain more detailed information than is to be found in our standard books, cannot do better than consult this work. The illustrations, which are numerous, are well executed, and some of the best are original. The practical physician will find ample data for diagnosis and treatment. The pathologist, too, may confidently rely upon the accuracy of the pathological descriptions. Dr. Ross has, in short, given us an excellent summary of existing knowledge on nervous diseases. We have no hesitation in foretelling a successful future to this admirable work.

W. B. HADDEN, M.D.

A Clinical Treatise on the Diseases of the Nervous System. By Professor ROSENTHAL, of Vienna. With a preface by Professor CHARCOT. Translated by L. PUTZEL, M.D. Two vols., pp. 271 and 284. New York: W. Wood. 1881.

THIS treatise gives a good common-sense view of the pathology and treatment of nervous diseases. It is evidently the work of a man who has had considerable opportunities of studying these diseases at the bedside, and who has brought to his task a mind eminently unprejudiced, and devoid of the least spark of enthusiasm. There is a total absence of fine writing, and indeed the book might perhaps have gained were the style a little more vigorous. We confess to a doubt whether any one could be found to peruse Rosenthal's book from beginning to end, owing to the somewhat too common-place way in which the subject has been treated; but for reference, in studying a given case, it is sure to be found of value. A great advantage is the general correctness of his statements, and the evident disinclination of the author to launch out into any theories, however plausible. The work is indeed more critical than original or suggestive; and while it therefore cannot be called attractive in any sense, it may surely be used as a safe guide by the practitioner. A peculiar feature of the chapters on treatment is the evident predilection of the author for hydro-therapeutic measures, which appear to have given very good results in his practice; while he is very cautious in extolling the virtues of drugs. Thus, he says of phosphorus that he has frequently seen it produce disorders of digestion, but that he has observed no benefit from its administration (in ataxy). Hydro-therapeutics, however, he finds to be one of the most efficient methods of treatment in that disease. By methodically stimulating the vast expanse of sensory nerves, and by rendering the peripheral circulation and the cutaneous functions more active, hydro-therapeutic treatment allays, according to him,

the central irritation, strengthens the nervous system, and diminishes its great excitability and the dangers to which it is exposed on account of its sensibility to atmospheric changes. Everything, however, depends upon a cautious and circumspect application of the method. He recommends chiefly friction with a cloth dipped in water possessing a temperature of 64 to 59 deg. At the same time a cold compress may be applied to the head, and the patient is then placed in a bath of 75 to 68 deg., into which cold water is slowly poured until the temperature is lowered to 64 or 61 deg. The patient remains in this bath from four to eight minutes; he is then showered, and friction applied to the back. The author likewise speaks well of wet packs combined with cold applications to the head, and followed by cool half-baths, when the patient suffers from spasm or distressing neuralgia; for violent pain in the back he employs frequently renewed cold compresses to the dorsal region, or prolonged cold baths, local packing, and injections of morphia. For improving the activity of the sphincters, he uses ascending douches to the perineum, and douches to the sacral and hypogastric region. He is also in favour of using electricity, and more especially the constant current, together with hydro-therapeutic procedures.

Professor Rosenthal divides the diseases of the nervous system into ten classes; the first of which comprises diseases of the meninges and parenchyma of the brain, on 155 pages. Then follow the diseases of the medulla oblongata, and of the meninges and parenchyma of the spinal cord. Hysteria and its concomitant nervous disorders occupy a class for themselves; and the author defines hysteria as one of the oldest products of civilisation. The fifth class embraces spasmodic cerebral and spinal neuroses, such as catalepsy, epilepsy, eclampsia, tetanus, and hydrophobia; while neuroses associated with tremor and disorders of co-ordination are made to include tremor and paralysis agitans, chorea major and minor, writer's cramp, and stuttering. For the relief of the latter, the author recommends the rhythmical method, the teacher beating time with a bâton, and the patient keeping his eyes fixed upon the bâton, and regulating his inspiration and expiration accordingly. The interval between these two periods is made longer and shorter at different times, the teacher alternately beating time more rapidly or more slowly, and the pupil accordingly accelerating and retarding respiration. By this means the precipitate and irregular respiration which occurs in most stammerers, is regulated; and the speech itself is corrected by causing the pupil to speak in syllables, in four quarters time and not too loud a tone of voice. The seventh class includes toxic neuroses, saturnine affections, post-febrile diseases, anæmic, ischæmic, and reflex paralyses. Of the latter he says, no doubt correctly, that the class of reflex paralyses will diminish more and more in proportion as the cases are more carefully examined, and that such cases constitute very rare exceptions. Neuroses of the sexual organs embrace seminal losses, impotency, and aspermatism. The ninth class comprises diseases of the cranial and spinal nerves; and the tenth and last the vaso-motor and trophic neuroses, viz., megrim, facial hemiatrophy, Graves's disease, etc. An index is added to the book, which is, however, not so full as might be desired. The translation is fairly well done, considering it is a re-translation from the French edition; and Dr. Putzel has added a few engravings copied from various foreign works. J. ALTHAUS.

Deformities of the Mouth, Congenital and Acquired, with their Mechanical Treatment. By OAKLEY COLES. Third edition. Illustrated by eighty-three Wood Engravings, and ninety-six Drawings on Stone. London: Churchill.

THIS book is a very useful one, both from the scientific and the medical point of view; and the fact that it has reached a third edition shows that it is fully appreciated by the dental surgeon, and, we may add, the medical practitioner. In the chapter on Anatomy of the Normal Palate, attention is particularly directed to the intermaxillary bones, whose presence in the human subject was at one time not only denied, but their supposed absence put forward by some authorities as the best criterion for distinguishing man from the higher apes.

A table of measurements of the palate, as a result of the examination of thirty-four adult skulls of European origin, and thirty-two adult skulls of mixed races, is given. The development of the palate and surrounding parts is fully entered into, and is at present the most complete account in English of the development of these parts. The chapter on Classification of the Deformities of the Upper Jaw is an important one, being the first attempt at classification on a morphological basis.

The author has arrived at the conclusion that the triangle is the best geometrical figure for recording the form of the dental arch, since it gives in a simple and diagrammatic form two of the measurements required, viz., the length and the breadth. The different deformities have been classified under the names of dolichoid, brachoid, macroid, microid, premaxillary prognathous, premaxillary hypognathous, and the lambdoid, or V-shaped arch of congenital idiocy, and to one or other of these divisions it was found possible to assign each case. Some original observations on the correlation between the palate and cranium have been made by the author; and among other results it was found that nearly all defective palates, in so far as speech is affected, are associated with flattening of the left side of the cranium at a point corresponding to the region of Broca's convolution.

The troubles arising from congenital cleft palate occupy a chapter, and a contrivance by which one of them, the difficulty of suckling during infancy, may be overcome, is described. Notice is made of the defects of the palate arising from syphilis; and the treatment of these defects, as well as of cases of cleft palate, and other congenital deformities of the mouth is given. Although the author believes in the soundness of his system of curative dentistry, it is satisfactory to note that he does not undervalue the merits of the surgical operation for congenital cleft palate. The book is well got up, and the woodcuts and drawings on stone are very well executed.

Beiträge zur Symptomatologie und Diagnostik der Hirnengeschwülste. Von Dr. M. BERNHARDT. Pp. 336. Berlin. 1881.

Contributions to the Symptomatology and Diagnosis of Tumours of the Brain. By Dr. M. BERNHARDT. Berlin. 1881.

Dr. BERNHARDT's aim in the volume before us is a very definite one. His sole endeavour is to elucidate the subject of the *topical* diagnosis of tumours of the brain. With this object, he has collected the cases of brain-tumour that have been recorded since the publication of Ladame's work in 1865 (to the number of

485); has arranged them in groups according to their situation, verified in all instances by *post mortem* examination; has made a most careful and laborious analysis of the symptoms present in each group; and has then formulated his conclusions as to how far our present knowledge enables us to make in any instance a regional diagnosis. We may illustrate the method of the book by taking as an example the chapter on tumours of the cerebral lobes. There is first a table in which, under the heads of author, age, sex, *post mortem* appearances, sensory symptoms, motor symptoms, symptoms of the special senses, disorders of intelligence and speech, and general remarks—a brief account is given of the 124 cases on which the chapter is founded. The cases are then arranged in three divisions, according as the frontal, the parieto-temporal, or the occipital lobe is the seat of the tumour, and an analysis is given of the frequency with which the different symptoms are met with in each division. Next, the individual symptoms are taken up one after another, and we are shown what their value is in determining the locality of the brain implicated. And, finally we have a *résumé*, not always as concise as it might be, of the conclusions arrived at.

Chapters, formed on this plan, are devoted to tumours of the cerebral superficies, the cerebral lobes, the corpus striatum and optic thalamus, the crus cerebri, the corpora quadrigemina and pineal gland, the pons Varolii, the cerebellum, the medulla oblongata, the pituitary body and anterior cranial fossa, the middle fossa, and the posterior fossa. There is also a chapter on multiple tumours of the brain.

We can only notice in a very cursory manner the conclusions to which Bernhardt's researches have led him; but, before doing this, we may mention that the first sixty pages of the book treat of the general symptomatology of brain-tumours. The symptoms are divided into two classes—diffuse and focal. The former, as a rule, give little or no information as to the locality of the tumour. They are found more or less frequently in tumours of every part of the brain. This class includes headache, vertigo, mental disturbances, vomiting, epileptic convulsions, and optic neuritis. It is to the latter, the local or focal symptoms, that we must look for information as to the situation of a tumour. This class comprises paralysis, convulsions, contractures, choreiform movements, conjugate deviation of the eyes, ataxia, sensory symptoms, disorders of the special senses, vaso-motor disturbances, trophic changes, polyuria, and so on. Each of these is separately examined, and its value as an aid to diagnosis of locality estimated. Dr. Bernhardt adopts Griesinger's dictum, that the fewer the diffuse symptoms, the more valuable the focal symptoms as indications of the locality of the tumour.

Dr. Bernhardt has collected 57 cases of tumour of the cerebral superficies, and it is noteworthy that in as many as 45 cases the tumour was in the fronto-parietal region; twice only was it in the occipital region, and in no instance in the temporo-sphenoidal region. Motor symptoms were present in all but ten cases. The author points out a peculiarity in the mode of onset of the hemiplegia in these cases. The whole side is not paralysed at once, but first, perhaps, the arm, then the face, and then the leg. The hemiplegia is made up as it were of a succession of attacks of monoplegia, and is generally preceded or followed by localised epileptiform convulsions. The occurrence of a hemiplegia with these characters gives us good ground for supposing that the tumour is in

the motor area of the cerebrum, or immediately adjoining it. Bernhardt has met with only three cases in which there was tumour of the motor area without motor symptoms. There seems to be no diagnostic sign by which we can distinguish between superficial tumours of the motor region, and tumours of the cerebral medulla implicating the same region; and, even if tumour of the motor region be diagnosed, we are unable to say how far it spreads anteriorly or posteriorly into non-motor areas, for tumours of these parts are often latent as regards symptoms.

In cases of tumour of the cerebral lobes, ataxy and disturbance of the muscular sense point to the parietal lobe as the seat of the tumour. Hemianopsia and subjective optical phenomena appear sooner perhaps in tumour of the occipital lobe than elsewhere. Disturbances of vision unaccompanied by paralysis of the ocular muscles are very suggestive of tumour of the cerebral lobes; still the presence of solitary symptoms of paralysis, ptosis for example, does not absolutely forbid this diagnosis. Another important symptom in these cases is mental derangement, which shows itself generally as loss of intelligence and obtuseness. Speech is also frequently affected.

The most trustworthy indication of tumour of the corpus striatum or optic thalamus is the appearance of involuntary muscular movements (half like tremors, half like the movements of chorea, in limbs that become paretic, or are already so, and which often present symptoms of diminished sensibility. The movements are very commonly confined to one side. In tumours of the corpora quadrigemina and pineal gland, there is no symptom of pathognomonic value; but if there be paralysis of the trochlear nerve and bilateral paresis of corresponding branches of the oculo-motor nerves, with unimpaired sensibility and absence of unilateral paralytic or convulsive attacks, there is every likelihood that the tumour is situated in this part of the brain. The symptoms that are most to be relied on in the diagnosis of tumour of the cerebellum are occipital headache, a reeling gait, and a peculiar vertigo. The vertigo is independent of paralysis of the ocular muscles, and may be felt even when the patient is at rest. Sudden death is frequently observed in these cases, and is probably due to pressure on the adjoining respiratory centre.

We have left ourselves no space to notice, howsoever briefly, the chapters on the pons Varolii, the medulla oblongata, the different cranial fossae, and on multiple tumours of the brain. But we have said enough to indicate the thoroughness of the book. It is somewhat disappointing to find that the positive results of such immense labour are comparatively few, for again and again Dr. Bernhardt is forced to the conclusion that it is impossible to make a regional diagnosis with any certainty. Some consolation, however, is to be derived from the thought that the difficulties of a local diagnosis are nowhere so great as in cases of tumour of the brain.

W. J. DODDS, M.D., D.Sc.

NOTES ON BOOKS.

Coleman's Manual of Dental Surgery. (London: Smith, Elder, and Co. 1881.) It is always satisfactory to come across a manual written by an author thoroughly acquainted with his subject, and, with a just sense of proportion, not disposed to magnify unimportant details because they happen to include subjects on which he has

especially worked, or minimise in importance others to which he has given less attention. This manual is well balanced, simple, clear, and exact, and is an excellent student's book.

Hensfrey's Microscopic Dictionary (4th edit., Van Voorst, 1881, Parts 1 to 2) claims the support and will serve the interests of all lovers of the microscope. It ranges over a wide variety of subjects; it is arranged alphabetically; it is copiously illustrated; has a full list of bibliographical references, and has no rival in the English language as a book of ready and exact reference for the microscope, apart of course from any quite special human or pathological studies which may require special kinds.

Ziemssen's Cyclopadia of Medicine (Sampson Low and Co.) is now completed by the publication of a general index, in a separate volume by itself. Ziemssen's *Cyclopadia* is an enterprise in which German learning and Anglo-Saxon liberality have gone hand-in-hand. This American translation is due to the firm of Wood and Co.; its production in England to Sampson Low and Co. They have shown remarkable punctuality in the publication of the successive volumes, great liberality to their subscribers, to whom they have more than kept their engagements, and whom they have in fact presented with a work of considerably greater size and more elaborate than was at first promised, without a corresponding increase of subscription. Ziemssen's *Cyclopadia* will long remain a standard of the highest class, and an ornament to the physician's library.

NEW INVENTIONS.

REFORM IN WHISKEY.

In all businesses there are 'mysteries' by which traders profit and customers almost as invariably suffer. This has especially been so from time immemorial in the case of whiskey. The 'blending' of whiskey has been an empirical proceeding, leaving a large margin for the imagination and an unlimited field for variations in the age and value of the constituent elements of the blend. The titles by which such blends are distinguished, such as 'Old', 'Very Old', and the like, are equally vague and unconstructive.

The very principle of mixing old whiskey with new is radically false. What is required to destroy the evil effects of new whiskey, is not mixing with old whiskey, which only changes the flavour and dilutes the poison, but the softening changes of age in the whole, which develops and ripens the ethers, and destroys the fusel. In introducing the system of bottling and dating in bond, so that the age of every bottle is certified by the Customs' officers, Messrs. Scally and Co., Dublin, have introduced a real and radical reform, which marks a new departure. Whiskey-drinkers have here, for the first time, the distinct and authenticated proof that the spirit is uniformly sound and of the desirable age, and not a mixture in which the poison of the new whiskey is hidden by the ripened spirit of the favourite blend.

SALTS OF THE MINERAL WATERS OF MOURA.

The following is the analysis of these salts: Carbonate of lime, 0.2223; carbonate of soda, 0.0855; carbonate of magnesia, 0.0487; carbon-

ate of iron, 0.0285; chloride of sodium, 0.0178; chloride of magnesium, 0.0518; silica, 0.0104; alumina, 0.0014; lithia, 0.003; organic matter, 0.0212; per litre. They are obtained from the waters of Moura, a village in the province of Alentejo, and have an alkaline action which has given them great popularity, and won them a high reputation in their native country, where they are extensively used by the medical profession, and have a great popular fame in the treatment of vesical and genito-urinary inflammations and catarrhs, in acid dyspepsia and heartburn, and the long catalogue of alimentary, vesical, and bronchial disorders, in which a mild mixed alkali is so often useful. These salts are not in any way weakening. It is a new candidate for notice in this country, but comes well vouched. The agent is S. Camillo de Figueiredo, 8, Park Avenue, Longsight, Manchester.

THE COURT ST. ETIENNE ARSENICAL WATERS.

Since our recent remarks upon these waters, it has come to our knowledge that some very satisfactory experiments have been made with them on ship-board in connection with sea-sickness. In some recent voyages to America, and in one case during terrible weather, when all on board save the crew were suffering from *mal de mer*, the administration of the Court St. Etienne water in a short time caused the sickness to disappear altogether; in some cases the effect is said to have been almost instantaneous. These experiments were watched with much interest by Dr. Barkany, an Austrian practitioner, and he tells us in his report 'that it was administered to 182 passengers, and that it failed in only three cases, which happened to be ladies, one of whom was suffering from stomach disorder'. He further remarks that 'such success was never before obtained by the use of any medicaments'. These facts are interesting and cheering to that large mass of suffering humanity who can scarcely enter a boat without immediately feeling the disagreeable effects of the motion in inducing nausea.

MISCELLANY.

COHN ON THE EYES OF MEDICAL STUDENTS.—Dr. Cohn (*Med. Jahrb., d. K. K. Gesell. d. Aerzte z. Wien.*, 1881) says that fourteen years ago he found that 53 per cent. of the Catholic theological students, 55 per cent. of the law students, 56 per cent. of the medical students, 67 per cent. of the Evangelical divinity students, and 68 per cent. of the philosophical students, were myopic. In the summer of 1880, 59 per cent. of the medical students were myopic, 55 per cent. of the junior or non-clinical students, and 64 per cent. of the advanced or clinical, the longer studies of the latter being probably the cause of the higher percentage. In discussing the cause, Cohn says that the blame lies entirely upon the methods of study. The lecture-halls are badly lighted, the benches and desks so arranged as to make writing most uncomfortable and difficult, the type of the text-books is too small, and the lines too long (straining accommodation when the eye passes from the ends to the middle), as well as too closely printed. He recommends that the light should fall fully on every spot in hall; that the benches should be 45 centimètres (17.7 inches) high, and 40 centimètres (15.8 inches) broad, while the desks should be 70-75 centimètres (about 29.5 inches) high, and 35 centimètres (13.8 inches) broad, to allow of easy writing. The type, he says, should be 1.5 millimètres (.06 inch) in size—of small *n* for example—and 0.25 milli-

mètres (.01 inch) in thickness of line; the intervals between the lines should be at least 2.5 millimètres (.1 inch) and the lines should not exceed 100 millimètres (about 4 inches) from one side of the page to the other.

REMARKABLE EQUABILITY OF TEMPERATURE.—During the intense cold of last winter, Ilfracombe was one of the three places where the temperature never went below 20, and the minimum was only below 32° on sixteen days, and the maximum on three days. At Torquay these numbers were respectively 19 and 5. The average mean range of temperature at the former place was about 8.2°. The mean temperature for January 1881 of the entire kingdom was 30.4°, and varied from 36.7° at Ilfracombe to 26.7° at Buxton (*Vide Met. Record*). For February, the mean temperature for the kingdom was 37.7°; and, again, Ilfracombe takes first place with 42.7°, the lowest being at Keltern, 35.1° (*Vide Met. Record*). In March the mean temperature for the country was 42°, and varied from 45.2° at Ilfracombe and Teignmouth to 38.4° at Alnwick (*vide Met. Record*). The mean temperature for Torquay for January was 34°, for February 39.7°, and for March 44.1°. We annex a table of the observations, taken at the Ilfracombe Hotel Observatory, upon which the above results were based.

	Mean.	Max. Reading.	Min. do.	Extreme Range of Temperature.	Mean Range of Temperature.
1880 Nov.	47.8	57.5	31.5	26.	9.7
" Dec.	48.2	56.	35.	21.	7.4
1881 Jan.	36.7	52.	20.	32.	8.7
" Feb.	42.7	55.	32.	23.	7.2
" Mar.	42.2	57.5	28.5	29.	8.9

UNIVERSITY OF EDINBURGH.—The following candidates have passed the first professional examination for medical and science degrees, October 1881:—M. S. P. Aganoor, Alfred Aikman, M. S. Altounian, J. M. Balfour, M. M. Basil, B. K. Basu, James Bell, G. L. Bonnar, Frederick Bond, J. E. Bottomley, Paul Bowes, Herbert Bramwell, D. M. Brown, T. A. Brown, J. R. Burns, C. J. Burton (Science), J. M. Cadell, Henry Caudwell, Edward Carmichael, Thomas G. Churcher, E. W. Clarke, J. G. Cossins, A. H. Croucher, A. S. Cumming, Daniel Davies-Jones, Alexander Davidson, A. N. Davidson, D. R. Dow, Thomas Easton, Edwin Eckersley, George Fisher, J. W. Fox, A. E. Grant, Benjamin Griffiths, J. S. Haldane, P. B. Handyside, W. C. Helme, George Hewlett, W. H. Hill, Archibald Hood, T. A. F. Hood, Robert Howden, R. E. Horsley, C. W. Howatson, A. W. Hughes, B. E. Iastrzebski, David Jack (Science), R. Jackson, Hugh Jamieson, Hugh John, John Johnston, Thomas Johnstone, G. H. Kenyon, Henry Ker, Francis Kraemer, David Laing, W. S. Lang, A. W. M. Leicester, W. M. Little, H. J. Mackay, Wm. Mackay, F. L. McKenzie, J. H. McKenzie, N. J. McKie, John M'Myn, Archd. Macqueen, G. D. Malan, J. W. Martin, D. J. Mason, Angus Matheson, R. T. Meadows, Wm. Miller, Duncan Menzies, Robert Mitchell, B. M. Moorhouse, A. E. Morison, E. J. B. du Moulin, Daniel Mowat, W. J. Munro, J. H. Neale, J. H. Neethling, Sydney Partridge, Ian Paterson, M. G. Pereira, F. A. Pockley (with distinction), G. Y. Polson, H. P. Pranker, H. H. Pridie, Joseph Priestley, J. M. S. Preston, E. E. T. Price, A. C. Purchas, Alvin Rames, T. R. Rait, C. A. Kenny, John Rigg, G. M. Robertson, John Robertson, J. S. Robertson, T. H. Robinson, Joseph Rutter, A. O. Schorn, William Shand, John Simpson, George Smith, William Sneddon, Y. S. Smitwong, Arthur Solomon, J. C. Steedman, H. F. D. Stephens, A. J. Stiles, H. J. Stiles (with distinction), J. W. Stirling, J. M. Stormouth, G. H. H. Symonds, John Sykes, T. S. Tanner, J. C. Taylor, Thomas Taylor (Science), William Taylor, Andrew Thomson, D. G. P. Thomson, H. A. Thomson, J. A. Thomson (Science), Thomas Thyne, Alfred Turner, J. W. O. Underhill, David Wallace, David Walker, E. F. S. Walker, N. P. Walker, L. W. Watson, A. K. Watt, E. G. Westenra, G. E. C. Wood, J. E. Wolfhagen, J. C. Young.

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"New York Medical Journal," August 1880, Dr. F. Weir,
in Lecture delivered to the College of Physicians and Surgeons, New York.

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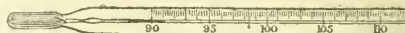
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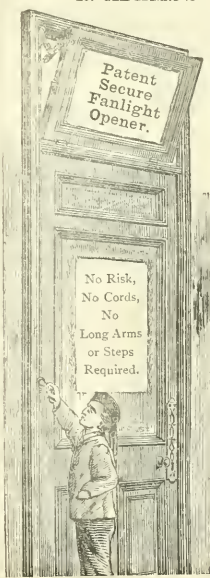
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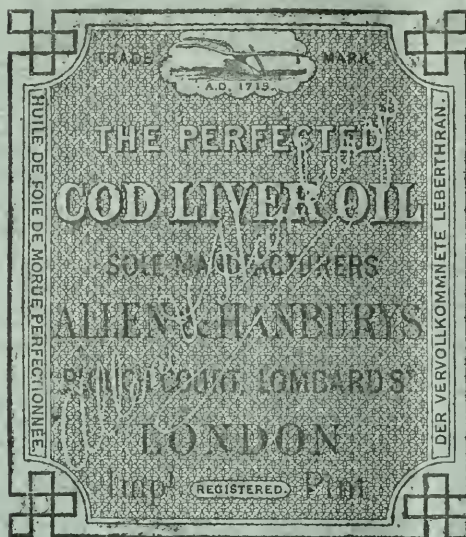
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